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Howard Browne**



edited by George Scithers,
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FROM ACROSS A SEA OF STARS... LIKE EARTHBORNE HUMANITY BEFORE THEM, THEY
THOUGHT THEY WERE THE CENTER OF THE UNIVERSE BUT THERE WAS A SIGNIFICANT
DIFFERENCE BETWEEN THEM AND THE OLD-TIME EARTHLINGS: THEY WERE NOT ALONE

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AMAZING™

MAY 1984

Founded In 1926
by Hugo Gernsback

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OPINION

by Robert Silverberg

Koyaanisquatsi is a Hopi word that means "life out of balance," "life lived crazily," "a way of life that calls for another way of living," and similar things. It is also the name of a brilliant, dazzling, awesome, and, I think, fundamentally wrong-headed motion picture, intended as a bitter commentary on twentieth-century industrial civilization, that has had sporadic distribution in the United States in the past year.

The film — directed by Godfrey Reggio on behalf of an organization called the Institute for Regional Education, and "presented" by the ubiquitous Francis Ford Coppola — makes no use of conventional narrative techniques. There is no plot or apparent story line, there are no characters, there is not a word of dialog or voice-over commentary. The soundtrack contains only the powerful, sometimes overwhelming musical score by Philip Glass. It is a purely visual event, a series of stunning images assembled with astonishing virtuosity by cinematographer Ron Fricke. Taken merely as something to see — a feast for the eyes — *Koyaanisquatsi* offers immense delights.

It opens with slow, lingering views of the Arizona desert landscape — the weird eroded mesas of Monument Valley, the vast cloudless vault of the sky. There is no sign of man and his works. The camera roves through the

emptiness of the American West as a chorus of deep male voices chants the strange word that is the movie's title and theme. From somewhere comes a river of fog that pours like a cataract over spires of harsh rock. So far, this could be some Disney tour of the wonderland of nature.

But abruptly we find ourselves looking at gritty sand, at a broken-down truck, at a dismal littered beach, at the colossal bulk of a nuclear power plant — and the film shifts tone and texture in a manner that is in several senses radical. The unsparing eye of the camera, maintaining the same amazing sharp focus as in the early scenes, now looks upon the works of humanity and invites us to find them hideous. And I, still astounded by the visual power of the movie, found myself now launching into a running inward quarrel with its underlying ideology.

Los Angeles and New York become the chief targets. We see the San Diego freeway at rush hour, and the camera speeds up until the cars go flying madly by like hyperkinetic lemmings with headlights. Then we gape at the Manhattan skyline, and descend into the vast urban canyons to watch as the commuters in Grand Central Station, their pace accelerated tenfold or fiftyfold by camera magic, do the same kind of frantic scramble. And then — a potent, telling moment — the film

shifts into slow motion, letting us see the densely packed pedestrians in Times Square and on Fifth Avenue drifting along in a terrifying lobotomized way, an army of nightmarish zombies carrying attaché cases.

Ah, deplorable, deplorable, deplorable are the achievements of humanity! See that hideous Boeing 747 filling the skies with nauseous exhaust fumes! See the rubble and squalor of the South Bronx wastelands! Look upon the baffled, defeated, alienated faces of the hapless folk who must pick their way through the bewilderingments of our befouled environment!

Well, yes, the ruins of the South Bronx are uglier than the still unspoiled splendors of the Southwest. And, yes, the faces of people caught in pedestrian traffic jams or grimly moving down a freeway at eleven miles an hour reflect the jarring dislocations of life in huge cities. But none of that seemed like news to me. Charlie Chaplin used fast-action photography fifty years ago, in *Modern Times*, to comment on the brutality of it all. Watching *Koyaanisquatsi*, I felt not enlightened but merely patronized: a sermon is a sermon, and sermons are a bore, whether or not they make use of words.

Certain paradoxes bothered me, too. Many of the things that the film seems to be deploring become the source of its visual power. That maze of interlocking freeways in downtown Los Angeles, for example: I wouldn't want to live across the street from it, but the view of it from directly overhead turned it into abstract sculpture of high esthetic achievement. The frantic headlights and taillights flashing by in the sped-up freeway scenes became a gorgeous abstract light-show. The gigantic black mirror-finish office building that I suppose we were meant

to scowl and grimace over seemed immensely beautiful to me, an immaculate glass tower in which the wonders of sky and clouds were handsomely reflected. Is ugliness, I wondered, in the eye of the beholder, or had I spent so much time living in the future that I actually preferred these artifacts of industrial technology to the virgin deserts?

What about the very cameras — products of our grim brutal civilization — that made possible this exceedingly high-tech movie? Should they not be condemned too? The unsparing artificial eye through which every image passes, the high-definition film that records it all with such clarity, those tricks of acceleration and deceleration, the time-lapse shots that allow us to see such strange and moving effects of light and shadow, are made possible, are they not, by the toil of unfortunate workers assembling equipment in soulless, brutal factories, to and from which they must travel every day on lethal freeways or in cramped, depressing subway trains? But I suppose the film-makers excuse their own equipment from the blanket condemnation of our loathsome times.

And the condemnation is indeed total. We are shown the California freeways — and then get a shot of commuters on the Bay Area Rapid Transit system pushing their computerized tickets into the slots. An easy cheap shot — mechanization, depersonalization, awful, awful — but the fact remains that BART is not only a comfortable and pleasant system of rapid transit but that it was devised as an answer to the horrors of freeways. If BART is a horror too, then there is truly no hope, short of going back to horse-drawn carriages. (But then where do we stable our millions of horses? What about the mounds of

ding in the streets?) We are shown grim fortress-like public housing projects — the Pruitt-Igoe buildings, I think, in St. Louis — and then, some minutes later, we watch the elegant demolition of those abandoned buildings by explosive charges. Which is supposed to be more deplorable — that people should be asked to live in such buildings, or that we should be devouring our own works by blowing them up? (None of the above, I think: better to build housing projects, however ugly, than to let people sleep in alleyways, and better to blow them up if they have been badly conceived, however wasteful that may be, than to stick with them despite all evidence of failure.)

Koyaanisquatsi is an irritating film not because it offers no answers to contemporary dilemmas — it isn't the artist's job to provide solutions to everything that seems to be amiss — but because it takes a simplistic view of our situation. Of course things are out of balance in modern urban civilization — they always have been, back to Sumerian times — but no real alternatives exist, short of holding populations down to a handful so that

we can live, as the Hopi do, in tiny mesa-top communities. We have made horrendous environmental blunders; but we know that, and we are trying as best we can to deal with them, and at least we no longer have to contend with the plagues and discomforts that put our ancestors' lives out of balance. Simply to look about at every aspect of the twentieth century and to say — without uttering a word — “How awful, how awful!” — seems to me a waste of everyone's time. We have gone forth and multiplied, and made things uncomfortable for ourselves, and now we must deal with the consequences: but we know all of that already.

See the film, though, if you get the chance. I found its noble anti-technological sentiments useless and boringly obvious — but it is a supreme accomplishment of photography, a wondrously penetrating vision that affords extraordinary delight so long as it is received as a series of abstract patterns rather than as a political tract. It is a high-tech masterpiece, a tribute to the very technology it purports to condemn. Only the twentieth century could have achieved it. <

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BOOK REVIEWS

by Robert Coulson

The Celestial Steam Locomotive
by Michael Coney
Houghton Mifflin, \$13.95 (hardcover)

This is the first volume of *THE SONG OF EARTH*, and more or less equivalent to the first installment of a serial, though there's a conclusion of sorts. Time is the far future, when humans have become divided into several distinct species; some of the branches refer to themselves as True Humans, but are actually no closer to us than are any of the others. The True Humans are also evolving into a neotenic form; literally big babies whose bodies must be cared for while their minds roam in the Dream Machine where every desire comes true. One of the True Human caretakers of an almost omnipotent robot, a neotenite girl, and a Wild Human artist join forces in a Quest. They travel the Celestial Steam Locomotive, which is a collective figment of the imagination of the neotenites — or is it? Other characters and civilizations are encountered, and there are flashbacks to their past, which is still far in our future. Presumably they'll all be tied together in later volumes; this book mostly introduces the epic scope of the story, and some of the principal characters. There's an immediate tendency to compare this to Gene Wolfe's *BOOK OF THE NEW SUN* because of the scope and far-future setting, though plot, mood, and impact

are totally different. This one is entertaining; judgment on whether it's also a modern classic is reserved until I read a couple more installments. But I do intend to read future installments, even if I have to pay my own money for them.

Damiano
by R. A. MacAvoy
Bantam, \$2.75 (paperback)

Also the first installment of a serial, and again with a sort of conclusion. Damiano is the somewhat wimpish son of a powerful and evil sorcerer; shortly before the book opens, the sorcerer has dissolved into a green ichor, leaving Damiano with an imperfect knowledge of sorcery and a better grasp of music. And much more interest in music. Because of his father's occupation and his own character, he has no human companions; his only friends are a talking dog and the angel Raphael. (Raphael is a brother of Lucifer, though whether this is a genuine sibling relationship or akin to "brothers in Christ" isn't specified.) Damiano's village is captured by an early-day condottiere, and he attempts to free it; his naive patriotism is one of the main themes of the book. (Patriotism is the last refuge of the idealistic.) He receives the same thanks that most patriots get, and at the end he's off on more adventures and the achievement of more maturity. The characters don't

have the same appeal as the ones in MacAvoy's earlier *Tea With The Black Dragon*, but they're interesting and I'm looking forward to the rest of the story.

Moreta: Dragonlady of Pern

by Anne McCaffrey

Del Rey, \$14.95 (hardcover)

That title caused a few snickers among readers who associate dragon ladies with "Terry and the Pirates" (a larger group than the publisher may realize). But titles are easily ignored. This is set somewhere midway in the annals of Pern; after the move from the Southern Continent, but well before the period depicted in the earlier books. It's considerably less romantic and more realistic than the typical Pern novel, and makes the point that organizing society according to dragon hierarchy doesn't always produce compatible human pairings. As Weyrwoman, Moreta not only has to cope with a continent-wide epidemic, but with more conventional problems of annoying and/or obstructionist humans, including her Weyrleader, Sh'gall. We're informed that Sh'gall is a good leader of men, but every woman reader will immediately sympathise with anyone who has to put up with him. (Based on a real person, Anne?) Interestingly, it's a book with adventure and conflict, but with no real villains. Lord Tolocamp is both an annoyance and comedy relief, and while Sh'gall is exasperating, he's working for the same cause as everyone else. Man against nature, with no human villains at all, makes for difficult writing; Anne has done a good job in creating an entertaining book.

The End of the Empire

by Alexis Gilliland

Del Rey, \$2.25 (paperback)

In this saga of Senior Colonel Karff, a practical man in a sea of faltering bureaucracy, there is a goodly amount of the wry humor that I expect from Alexis. Plus quotable phrases — "libertarians are anarchists on the gold standard" — and parodies and wordplays. "Gules upon argent, a dragon's head, erased", as a coat of arms (but "roc's head" would have scanned better) sounded very familiar, as did Aaron Nimzovitch and his books *My System* and *MST Praxis*. There is also a large amount of action, some quite enjoyable characters, and an involved plot. The forces of the fading Holy Human Empire, having been kicked off a planetary system by the Rebels, wander over to a convenient independent system and consider conquering it for their new base. However, while Karff is making the preliminary moves, the Rebels arrive and the Empire fleet runs, leaving Karff stranded. Whereupon he joins forces with the locals to resist the Rebel takeover. The book has the sort of ending that I associate with old movie serials, which I assume means there will be a couple of sequels, but it's well worth reading on its own.

'Ware Hawk

by Andre Norton

Atheneum, \$11.95 (hardcover)

Another Witch World book. Tirtha ventures into the desolation and aftermath of war because something is drawing her to the ruins of her family's home. She engages a woman-hating Falconer as her guide, and together they rescue a strange boy with enormous but untrained psi powers. The three win through dangers to confront evil men and an evil Force in Tirtha's ancestral halls. And win, of course. It's not going to be one of the important novels of the year, but I

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enjoyed it thoroughly. The idea of absolute Evil isn't popular these days — even Darth Vader chickened out in the end — but Norton can make you believe in it while you're reading. In addition, Tirtha, Nirel and Alon are interesting and sympathetic characters.

Dark Valley Destiny

by L. Sprague and Catherine de Camp and Jane W. Griffin

Bluejay Books, \$16.95 (hardcover)

This is a book-length biography of Robert E. Howard, and I found it absolutely enthralling. Mostly this is because I seem to share a lot of Howard's personality traits, except that his were always carried to extremes. We both prefer animals to people, but Howard refused to kill anything. I worry about burglars; Howard was convinced that "they" were out to get him. I married late; Howard never married at all. And so on; there are numerous parallels. Of course, this extremism may be why Howard is a famous writer and I'm not; it's pretty definitely why he shot himself at age 30 and I didn't. (Comments that it's never too late will not be appreciated.) The book seems well researched; I certainly don't know enough about the man to argue any of the points. In fact, Howard seems to be the sort of person I'd have avoided knowing, even if I'd been his contemporary — but his personality makes for fascinating reading. His life was almost as improbable as most of his fiction. Highly recommended.

Over My Shoulder

by Lloyd Arthur Eshbach

Oswald Train: Publisher, P.O. Box 1891, Philadelphia, PA 19105, \$20.00 (hardcover)

An account of the science fiction specialty publishers of the 1940s and

1950s, by one of their number. Appropriately enough, it's produced by a specialty publisher of the 1980s.

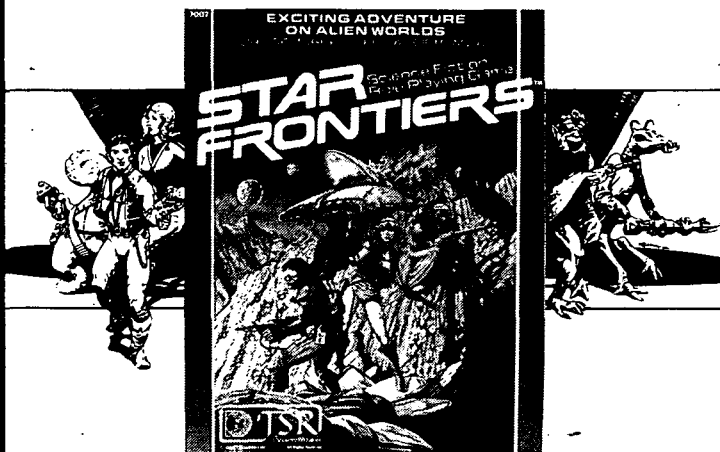
Eshbach was the major force behind Fantasy Press, and knew personally the people who operated Gnome, Shasta, FPCI, Prime, Grant-Hadley, and the others who produced those limited-edition hardcovers which now sell for outrageous prices to collectors. (At the time, they were priced at \$2.50 or \$3.00, but *their* customers were people like me, who didn't often have \$2.50 to spend.) Eshbach has played down some of the internecine squabbling that went on, and presented everyone in his or her best light. In part this is self-preservation; some of those people are litigious, and Train isn't a financial powerhouse of a publisher. But mostly I think it's because the author prefers to be nice to people — an unusual trait in this day and age, but still found occasionally. The publishing history itself is quite interesting, and there are intriguing glimpses of fans, authors, and publishers. Along the way, Eshbach corrects a few errors which have appeared in other books, and for the collectors he includes a checklist of author, title, and print run of every book produced by the major (and some of the minor) specialty publishers. Entertaining as a story; invaluable as research material. Every library with a science fiction collection should have a copy; a lot of individual readers like myself will want one.

Index To The Semi-Professional Fantasy Magazines 1982

compiled by Jerry Joyajian & Kenneth R. Johnson
Twaci Press, P.O. Box 87, M.I.T. Branch, Cambridge, MA 02139, \$3.50 (paperback)

And the specialty publishers are still around. This indexes those in-between

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publishers which pay their authors — usually — but have little or no newsstand distribution or general recognition. The authors are mostly people I never heard of before; some of them may become household names in the future, and most of them won't. Occasionally major authors appear; the index includes names such as R. A. Lafferty, Isaac Asimov, Manly Wade Wellman, etc. Index by issue, story title and author covers 28 large-sized pages.

What Dreams May Come
by Manly Wade Wellman
Doubleday, \$11.95 (hardcover)

I believe this is the first full-length novel about John Thunstone. As an occultist visiting England, he discovers a mystery of ancient power in a rural community, and, of course, solves the mystery and defeats the power. Characters and setting are interesting. It's an old-fashioned horror story, with none of the careful building of mood — or the padding — of the newer writers. A quick and generally enjoyable read.

Minus Ten and Counting
Songs of the Dorsai

Off Centaur publications, P.O. Box 424, El Cerrito, CA 94530, \$9.00 each (cassette tape)

A pair of excellent audio versions of science and science fiction. *Minus Ten* is a marvelous tape for space enthusiasts; it includes twenty-three songs on a sixty-minute tape, done by some of the best singers that science fiction has produced, and it's excellently recorded. Pro-space people can now entertain their friends and propagandize at the same time. *Dorsai* — the songs inspired by Gordon Dickson's stories — is also good, though the recording quality isn't always of the best. It was recorded under extreme difficulty, as I can personally testify. (I'm not sure they actually used any of the recordings I did for them, but they gave me credit, probably because I bitched so much about my troubles.) The songs themselves are excellent, and Al Frank is a marvelous narrator; he puts the songs in perspective and makes the tape a sort of musical history of the stories. Personally, I loathe any sort of narration on music tapes, but if you don't have that bias you'll like this. Certainly the fans of Dickson's *Dorsai* series should all have copies of the tape.

by The Editors

The Science Fiction Magazines
compiled by Hal W. Hall
SFBRI, 3608 Meadow Oaks Ln.,
Bryan TX 77802, \$7.50 (paperbound)

We have been looking forward to seeing this: a bibliographical checklist that is up to date (through 1982) and as complete as the industry of Mr. Hall and those who have aided him could make it. From A. Merritt's through *Worlds of Fantasy*, it lists all

English-language SF and fantasy magazines. "Semi-professional" publications have been omitted — and here the line *might* have been drawn differently. There are listings of editors and of other magazine indexes, and a provisional outline of foreign publications. For materials in English, Mr. Hall has very nearly fulfilled the ideal of seeing what he lists: he is head of the Special Formats Division of the

Texas A&M University library.

The collector will find this work indispensable, though descriptions of format would have been useful. The scholar will, of course, look elsewhere to learn the worth of this material; here, magazines using reprints could have been more consistently identified.

We noted some small errors of no practical importance, and on some matters all the facts are not in. Mr. Hall will be grateful for any facts you can give, especially on foreign-language publications. You can write him at the address above.

by Frank Catalano

1984

by George Orwell

Signet Classic: \$2.95 (paper)

There's something about the term "literature" that tends to make the average reader's heart grow cold, knees turn to Jello, and eyes start spinning uncontrollably out of focus. After all, as our English professors taught us, "literature" is serious stuff for deep philosophical thought and preservation of great and noble ideas. It is precisely that kind of dogma that keeps a lot of people away from classics — the fear that they won't be any fun to read.

Unfortunately, we were rarely taught that literature can be entertaining too, as though *serious* and *entertaining* didn't go hand-in-hand. The flaw in that kind of thinking is obvious: if what we now call a "classic" wasn't at least somewhat entertaining when it was written, then not enough people would have bought it and read it in order to make it a classic in the first place.

Perhaps no other "classic" has spawned as much controversy and spin-offs in other media as George Orwell's tale of a dark, dismal future, *1984*. By this point, you've probably been subjected to numerous in-depth newspaper and magazine articles, television series, and radio features (I even produced a set of them myself for

NBC Radio last Fall) on the so-called Dreaded Year. But likely they don't address a point a book reviewer sees as all-important — how does Orwell's work hold up after all these years? After all, it was written 35 years ago.

From what I can tell, pretty well. For those of you who may need a quick memory jog, *1984* is the tale of Winston Smith, who lives in the superstate of Oceania (what used to be, in part, the U.S. and England) under the watchful, dictatorial eye of Big Brother. Smith rewrites history in the Ministry of Truth to make Big Brother's regime look good. Then, contrary to everything allowed under Big Brother, Smith decides he hates Big Brother, falls in love, and tries to find an underground movement to fight the government.

1984 is at its entertaining best in its first half. Orwell sets up the world, and piece-by-piece unveils its flaws, its reasons for existence, and the players. The second half is the philosophy; and the pace bogs down with Smith reading a book-within-the-book, as well as lessons Smith is to "learn" by force. The ending is anything but upbeat.

Still, by today's standards, *1984* is a good book. It keeps your interest, delivers a point — albeit somewhat heavy-handedly — and the characterizations are pretty good.

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But perhaps, and here's where its well-deserved label of "literature" comes in, *1984* is worth reading because of what it has to say. There's no doubt it's a message book with a warning of what may come if we're not careful. And while it's not light reading by any means, it's very readable — all qualities that make *1984* as good a book today as it was in 1949.

Midas World

by Frederik Pohl

St. Martin's Press: \$12.95 (cloth)

A somewhat more recent novel of a bleak future is Pohl's *Midas World*. The premise: that the development of cheap nuclear fusion isn't the boon to Mankind it's cracked up to be. It creates a wealth of products that have to be consumed, eventually leading to the poor having the most to consume, and to the Earth bearing the brunt of the brutalizing of its resources.

Midas World isn't as much of a novel as it is a collection of short stories, all set in vaguely that same future and written between 1954 and 1983. While some of the individual stories are fine, the book as a whole doesn't work. There are no continuing characters from story to story, and no real connective material to tie it all together.

As a satirical collection of short stories, *Midas World* garners a Satisfaction Index (number of memorable pages/total number of pages) of 50. But as a novel, *Midas World* is less than golden.

Single Combat

by Dean Ing

Tor: \$2.95 (paper)

There's no way to tell from the cover or a quick perusal of the first couple of pages, but *Single Combat* is indeed a sequel to Ing's 1981 novel,

Systemic Shock, published by Ace. It helps to have read *Systemic Shock* before reading *Single Combat*, but it's not needed to understand exactly what's going on.

What's going on is this: after a nuclear and chemical war ended in 1998, America as we know it was cut down to the Mormon-run Streamlined America, with the White House moved to Salt Lake City. The current President has taken the Administration's Search and Rescue operation, and turned part of it into a hit squad to get rid of critics of the government.

Single Combat continues to follow Ted Quantrill, now that he's a part of Search and Rescue's secret hit squad. But while *Systemic Shock* was about surviving the war and what people will do to survive, *Single Combat* is about government going corrupt in a time of crisis and an underground movement's attempt to right it.

There are some things in *Single Combat* that are not for the squeamish reader. I personally found some of the depictions of sex and violence, and combinations thereof, to be a bit much for me. Despite that, I kept turning the pages to find out what happened next. Ing has a very well-realized and plausible near-future, and his main character, Quantrill, changes in this book in a way that makes him a much more sympathetic character.

Ing does leave the door open for yet another sequel. But fans of *Systemic Shock* should appreciate *Single Combat*. It's a decently entertaining SF novel with a heavy dash of political intrigue.

Gods of Riverworld

by Philip José Farmer

Putnam: \$14.95 (cloth)

There are some writers who require someone to hover over them with a

mallet. And then, to bring it down whenever the writer moves to write just a bit more about an existing work.

I really wish there had been a mallet handy when Farmer was working on *Gods of Riverworld*. The *Riverworld* novels — now five — are what most people know Farmer for. They are, in large measure, witty and entertaining as they chronicle the *Riverworld*, where every human being who has lived is suddenly resurrected. The series has brought into play prominent historical figures as main characters, including Sir Richard Francis Burton, the lead in *Gods of Riverworld*.

In *Gods*, Burton and seven others have made it to the alien-built Tower at the headwaters of the *Riverworld*, and have to decide how to handle their new-found power. They also have to handle a murderer among them, as well as the future of humanity. No small task.

Gods of Riverworld does answer the unanswered questions in the fourth volume, which was to be the last in the series. It does tie everything up pretty nicely. But it takes a long time in doing so. There are lengthy reviews of each character's life, dabbles of philosophy, and a continual who-can-be-trusted merry-go-round as they search for the unknown killer.

Needless to say, the characterizations are excellent. The world is still fascinating. And the ending may actually be the ending of the *Riverworld* saga. But be warned: *Gods of Riverworld* is long, maybe a third again as long as it needed to be. The pace slows to a maddening crawl in some places. Some editing would have helped. Or maybe the mallet.

On A Pale Horse

by Piers Anthony

Del Rey: \$12.95 (cloth)

In a world full of lighter-than-air fantasy, it's a pleasure to see a fantasy novel that is not only fun to read, but that has some substance to it as well. Such a book is *On A Pale Horse*, the first book of a five-novel philosophical fantasy series called *INCARNATIONS OF IMMORTALITY*.

What?, you cry, Anthony, the master of amusing, bad-pun fantasy like the *MAGIC OF XANTH* series getting into (shudder) *philosophy*?

Not only is it true, it's well done. The world depicted in *On A Pale Horse* is one in which there are laws of magic and science; and Death, Time, War, Nature, and Fate are offices to be held. God and Satan are real, too, and their battle for souls is evident on the Earth.

The first novel in the series focuses on Death, who drives a pale sports car that transforms into a horse at the push of a button. As the book opens, there's a new Death learning the ropes of his office — and coming into conflict with the tradition of that office.

There's humor here, and deep thought dished out in easily digestible, bite-sized chunks. Anthony shows he can handle a serious subject with a light touch without making the subject trivial. He also follows the novel with a 17-page Author's Note, that goes into why he wrote the novel, how it got to be written, and how it fits into his life overall. Fascinating reading if you're interested in the man behind the words; something to easily skip if you're not.

On A Pale Horse is entertaining, well-paced, and satisfying. If the other four books are on the same level, Anthony will have written an incredible fantasy set.

The Zanzibar Cat

by Joanna Russ

Arkham House: \$13.95 (cloth)

If you had to lump the terms "literary" and "science fiction" together, odds are a name that would come immediately to mind would be Joanna Russ.

Arkham House has put 16 of her works in Russ's first collection. She is what some would call a serious writer, and it shows — almost without exception, the stories all have something to say. There is a light touch, notably in the hilarious "Useful Phrases for the Tourist." But for the most part, the stories are very serious, even though they may appear to be playful on the surface.

This isn't a collection to try to read all at once. Russ leaves a lot of the connections to be made in the mind of the reader, and that can prove to be mentally exhausting after a couple of stories. But it can be rewarding too: a lot of the tales stick with you.

Overall, give *The Zanzibar Cat* a Satisfaction Index of 86. The stories are largely memorable, but they're not easily-read entertainment. A fine book for when you're in a very thoughtful mood.

The SF Book of Lists

by Maxim Jakubowski &
Malcolm Edwards

Berkley: \$7.95 (trade paper)

The Illustrated Book of Science Fiction Lists

by Mike Ashley

Cornerstone Library: \$7.95 (trade paper)

Want to know what some of the longest SF titles are? How about the most prolific anthologists of all time? Or real SF writers who appear in SF stories?

The mania over "list" books has finally come to the SF field with *The SF Book of Lists* and *The Illustrated Book of Science Fiction Lists*. The former, from Berkley, is over twice as long as the latter, from Cornerstone Library (which, in turn, is from Simon and Schuster). For my money, though, I'd go for the Cornerstone Library version. Both have a lot of lists. But the Berkley version may be too much, with nearly 400 pages of type. On the other hand, the Cornerstone Library edition is a bit easier to digest. It's only about 200 pages, there's a table of contents, illustrations help break up the type, and there are four general categories to the book, unlike the Berkley tome.

Neither book has an index, which makes finding anything more than once a real pain. Who knows — in a sequel-happy publishing industry, the next step might be *The Book of Lists of Books of Lists*. ❧



DISCUSSIONS

by The Readers

Dear Editors:

To bandy about a point brought about in the July "Discussions," not only those people who saw *Star Wars* do not know of science-fiction magazines, but those who read SF "avidly" (as they term it) don't either. I attend school with some of these readers, but I am probably the only one there who ever reads the magazines. My friends read books, but generally by their favorite authors — those they are "accustomed" to. Few readers, it seems, are willing to read new authors before they go through the publishing gamut; these readers are *afraid* to experiment with the unknown in writing — either afraid or ignorant. The goal of you, the editors, is to interest this VAST — as Robert Silverberg pointed out in July — *POTENTIAL* readership, whether it be afraid or ignorant of the SF magazines.

Sincerely,
Timothy Wright
Andover MA

They're afraid of spending money. Back when paperbacks cost a quarter, you could buy them casually. Now, when they're pushing three dollars, you tend to weigh each purchase carefully. Don Wollheim had a great idea years ago with his Ace Doubles. There would be a novel by a famous writer on one side, and one by a new writer on the other. The new writer

would be introduced to a much wider audience than he otherwise would have reached. Now, we can only hope that readers will see enough of their favorite writers in Amazing that they'll give us a try.

— George Scithers

Dear George:

I don't know if you like this kind of story, but I'll let you decide.

I have some comments about Robert Silverberg's "Opinion" column in the November issue of *Amazing*. Much of it I agree with, but I must say that I disagree strongly with his assertion that Gene Wolfe's *The Sword of the Lictor* strays far from his purist notion of what SF is. Has Silverberg read the previous books in the series? It is true that you have to dig well beneath the surface sometimes to find the science in Wolfe's series, but it is there, and one major part of the speculation in Wolfe is the aspect of what happens to a society when it still retains enough science and technology to develop a sort of mysticism around it, while forgetting so much that the society does not understand it. Viewed this way, it can be considered an examination of Clarke's Law. Surely Silverberg has heard of that. I think that Wolfe's series, aside from being one of the finest examples of literature to come from the science fiction field, has some very strong speculative elements.

Best Wishes,
Clinton Lawrence
Davis CA

Dear George,

Congratulations on being No. 3 in the top 50 from *Writer's Digest*! To quote from the *Digest*: "Our first annual ranking of sparkling showcases for your short stories — respected magazines that treat you fairly and with tender loving care." The fact that *Amazing* was No. 3 is due to George and the rest of the crew. Please don't ever succumb to pressure or frustration and neglect all of us promising, aspiring writers. Your many individual evaluations of rejected manuscripts are like seeds which will not only engender goodwill, but help to cultivate a new crop of writers for tomorrow. When I first began submitting manuscripts, *Amazing* was one among many and I could never subscribe to them *all*. But your time and patience caused me to become interested enough to subscribe — *and* read the things as well!

Steve Aaronson's piece in the September issue ("Beyond Einstein") was fascinating, but I do not feel that it belongs in *Amazing*, just as such essays do not belong in *Asimov's* or *Analog*. Leave those to *Omni* or *Science Digest*. Free up that space for more fiction!

I am generally encouraged with the quality of the material in *Amazing*: The September cover was excellent and eye-catching, but not as good as July's cover. Just allow me to voice an opinion about the general trend of this kind of literature. I would like to see a little more experimental stories and less of the tried-and-true formula stories. This field desperately needs a shot of innovation and originality! Gene Wolfe's *BOOK OF THE NEW*

SUN is a perfect example of an innovative, unique concept. Imagine a world millions of years hence, where man has gone to the stars, and Earth has slipped into a Dark Age, where science and magic are one. Not only is the idea unique (to my knowledge), but the writing is rich with substance and feeling, beautiful in language.

I know everyone can't write like Wolfe. But I'm betting that there's more out there than we will ever see, simply because of the kind of climate in the field and in publishing. I don't think we're talking about policy here; I'm convinced it is *survival* that I'm discussing. (This is "Discussions," isn't it?)

The bottom line is this: where will the writers of tomorrow come from if editors are not willing to be a little experimental? J.R.R. Tolkien's works are classics, but he wrote for his own pleasure, without any commercial intentions. If only the well-established writers can write what they really want to write, then perhaps literature has gone the way of television. It's easy enough to reject stories because of structure or form, but quite honestly, are we readers being kept from any stories out there that simply may not conform to the established pattern?

Sincerely,
Michael G. Adkisson
Arlington TX

Alas, we don't want to disillusion you when your comments are so well-intentioned, but we must point out that THE BOOK OF THE NEW SUN is the brilliant climax of an old tradition rather than the innovation you seem to think it is. The "antique future" story goes back to Clark Ashton Smith's Zothique series, if not to The Time Machine. The greatest classic of the type prior to Wolfe is

Jack Vance's *The Dying Earth* (1950), which has been enormously influential.

Of course Gene's approach is innovative, and he has made the familiar material new and strange again with his masterly touch.

We do encourage experimentalism and innovation — any field will die without it — but where we part company with the self-proclaimed "experimental" writers and editors of the New Wave Era (remember that?) is that we want to publish successes. If a supposedly innovative piece actually delivers what it promises, then we will publish it enthusiastically. But such stories are rare. We don't want opaque, half-formed "things" that make the reader say, "I didn't understand that, so I guess it's experimental." (The problem is that most readers add, "I guess I won't read that magazine again.")

Successful experimental writing is rarely produced by beginners. This is not because editors only trust big names to do it, but because such work takes an even greater mastery of craft than more conventional work does. The new writer rarely develops that far after only one or two stories. Remember that James Joyce didn't exactly start out with *Finnegans Wake*. We don't dictate to anyone what they should write, but we only buy it if it's effective.

— George Scithers

Dear Editors,

RE: D. Schweitzer, "Observatory," November '83, "Why Isn't SF More International?"

Excuse me, but I find this editorial well-intentioned but otherwise, well, a gross simplification. It overlooked the enormous blocks in the way of foreign writers cracking the American SF &

fantasy market.

To wit: one is dealing here with a competitive, commercial field that demands constant, up-to-date information about who buys what where and why. In those words are the conclusion to the old joke that never works: you gotta be there. Then there is the problem with the American sense of who writes what abroad: SF & fantasy writers tend to use genres to articulate — or satirize — national problems which Americans neither know about nor care about. Do American readers really want SF & fantasy that isn't in the American idiom? I'm not talking about Borges, Lem, or Pierre Boulle — but about the thousands of SF & fantasy writers belonging to other nationalities whose sense of the contemporary world excludes American references. Also, why have anthologies of foreign, or European SF & fantasy sold so poorly in the States? Look at Rotenstein's *Views From Another Shore*, Suvin's *Other Worlds, Other Seas*, or Wollheim's *The Best From the Rest of the World*.

To a large degree aren't SF & fantasy in practice (not in theory) a comfortable, reassuring kind of writing in which readers see transformed the world, the language, the lingo, slang, habits, and base customs which they already know? Someone like Rudy Rucker works great when he places stories in Germany. But ain't that the American innocent abroad? What about German, French, Portuguese, Danish, Austrian, and Dutch writers themselves? Are they *really* wanted by the average SF & fantasy reader in America? Aside from elite exceptions (Verne, Borges, etc.) tradition seems to show that they are not.

Not to mention the difficulties with marketing, translating, and long-distance mailing.

All the best nevertheless!

John Deam
Paris, France

We have so far published a Japanese fantasy story, and have recently purchased what we believe to be the first modern Chinese SF story to reach the West. Certainly translation, marketing, and mailing are problems. The foreign writer is greatly helped by an American agent or contact, but the greatest obstacle facing such writers is surely the belief that there are great obstacles preventing one from selling to the American market. If the stories were submitted, they might have a chance. If not, it will look like foreigners are being excluded.

At the same time, much of what you say has merit. Most foreign writers don't sell well in this country for the same reason many American writers don't sell. They have not established their reputations; they are unknown and unfamiliar to the reader. American readers, regrettably, are very brand-name oriented. They buy a book by a familiar, favorite author first, and books are just too expensive for large-scale experimental buying. A foreign writer who is even the dominant figure in his own country's SF is a beginner here. He has to work up from the bottom, and it's a long haul for anybody. Lem has managed to establish himself. So have Borges, the Strugatsky brothers, and a few others. Some writers who have had only a book or two published here vanish in the great mass of never-heard-of-him authors.

Those anthologies should provide a good sampling of foreign SF; but, again unfortunately, anthologies aren't doing very well right now; and anthologies filled with unknown writers are doing even less well. We think SF

magazines can help, the same way they help unknown American writers. The big names on the cover bring in the sales. The lesser-known writers in the issue are also read, and thus become more familiar. A reader is more likely to buy a novel by a writer whose short fiction he or she has enjoyed, than by an unknown.

— George Scithers

Dear Mr. Scithers,

Another bookstore has closed nearby and my favorite magazines are only available if we go three miles out of our way to the New Harrison bookstore in Roseville, since Dalton's and Walden's will not carry them. I am 52 years old and discovered SF almost twenty years ago, when my husband was seriously ill. It was a magical door opening, an escape route, at least for a few hours, from the unbearable present. For years I have donated my treasures to the library, but would like now to keep them to reread again, for I am a compulsive reader. Please do not print your order form so it will destroy a good story ending.

Thank you.

Mrs. Elfi Rothenhauser
East Detroit MI

You don't have to use that form at all. Just type or print the information (your address, how much is enclosed, how many issues you are subscribing for) on a piece of paper and send it along with your check.

— George Scithers

Dear Sirs:

I am writing in regard to "Constructing Scientifiction and Fantasy." I assume that it is predominantly a set of general helpful hints on writing form and on manuscript format, rather than a listing of your particular edito-

rial needs and wants. If this is so, it seems to me that it is intended for the young amateur science-fiction fan who wants to be a writer rather than for a writer who wants to submit a story that fits what you are looking for contentwise. If this is the case, although it is a useful and noble service to the former, I am a little taken aback at your apparent presumptuousness in deeming yourselves authoritative enough to tell people "how to write," rather than sticking to traditional editorial pursuits. I don't deny that you may have that expertise: it does seem high-handed, as well as condescending to prospective contributors.

Nevertheless, I realize that I may be mistaken about your intent and the purpose of the booklet, as well as that I may be overreacting (it would not be the first time). I do not want to sound too harsh, I merely wanted to point out what I saw as a shortcoming in your otherwise fine magazine. In any event, after all that, I would like one of your booklets.

I hope my opening statements do not sound too caustic. Believe me, no offense is intended. I certainly hope your readership continues to grow, and you are able to continue delivering high-quality SF and fantasy. I am a new reader of your magazine and have been impressed by what I have seen thus far. I thank you for your time and trouble. You will more than likely hear from me again.

Sincerely,
James P. Bierbaum
Dover DE

Your booklet is on the way.

As for "telling people how to write": well, we see around 600 stories a month. We see, exaggerated, every possible fault, over and over again. We

can, with considerable confidence, describe lots of ways to write that DO NOT WORK. And we can, having been in the business of buying stories as well for about seven years, suggest some of the (traditionally sixty-nine) ways to write.

And editors do traditionally teach people how to write — one hopes by other means in addition to the inevitable one of sending back what is badly written. A plain rejection slip tells so very little!

And — also traditionally — the other way to find out what we're buying is to read what we've already bought, and then to do it differently (and better), in order to please the people who've liked our previous offerings. "Ya gotta know the territory" is the Rule for Traveling Salesmen; it applies to SF writers too.

By the way, we cannot judge what we cannot read; and dot-matrix printing with queer letter forms and pale grey ink (as demonstrated in your letter) is totally beyond the pale. Manuscripts in such form will be returned unread!

— George Scithers

Editor:

The ending of Rory Harper's "Duty to the Empire" in the September issue caught me by surprise. Not so much the premise, which is perfectly logical despite its unpleasantness. But the fact that it brought a couple of tears to my eyes. Not many stories can do that to me anymore!

I'd like to see a sequel to "...Empire." After all, the story doesn't really stop with the end of "...Empire." The cat creatures are stuck with one prince and we're stuck with a Hell of a lot of questions. Will he be adopted by the captain's family? How do the cat people protect him

from the agents of the Empire? How do they protect their PLANET? (The cat captain talked tough about interstellar war but I can't believe they'd get into one over a ten-year old alien.)

That's a story all by itself. Then there's the question of what does the kid do when he grows up. Is he going to go after his uncle and his throne?

Come on, Harper! Don't leave us hanging like this! Don't you want to be rich? Famous? Satisfy my curiosity? Larry Carroll
1341 Cambridge
Glendale CA 91205

Dear Mr. Scithers,

I write to take issue with Robert Silverberg's complaint ("Opinion," November 1983) that there is a lack of new and speculative elements in science fiction. I do not disagree that this is so, but rather with his view that this is a bad thing and that "*science fiction* at its finest" ought to be speculative. When we read a fairy tale we do not suppose that the writer is going to tell us something new about fairies, or that he believes in fairies at all. The faerie elements in a fairy tale or fantasy are literary devices used by the author to entertain us or to reveal to us some truth. Faerie is employed for literary ends.

So it must also be with science fiction. Of course, fiction may be used as means of expressing scientific and technological speculations, and it is not impossible that a story which does this may also have literary merits. But speculation is not, in itself, a literary merit of any kind or in any genre. As a student of the history of technology, I am interested in technological speculation, but I know that I am one of a very small group (and I don't claim any intellectual virtue in belonging to it). Science fiction may have started as

a voice of speculation, but it was too successful to remain so.

The end of exploration and of stratified society at the beginning of this century killed two old genres dead. Science fiction provided one new landscape for the imagination and a new set of metaphors and devices for literature, which have been and, I think, will increasingly be adopted by writers with no interest in scientific speculation, for purely literary purposes. Some of the major highlights of modern literature, for instance, E. M. Forster's "The Machine Stops," Aldous Huxley's *Brave New World*, or C. S. Lewis's Ransom Trilogy are of this type.

The finest science fiction, in literary terms, will naturally come from those writers who are interested in producing literature, and while the speculative part of the genre will always have a role in enriching the new literary landscape with new devices and metaphors, if the Science Fiction Writers of America were to insist on this element in their Nebula balloting they would shut themselves up in a corner of their own genre, a corner which will grow smaller, at least relatively, every year as the new literary territory of science fiction is more fully exploited. The trend to literary over speculative ends is in no way regrettable; we are not short of scientific speculation today, but we are desperately short of good literature.

Yours sincerely,
Mark Baker
Kingston, Ontario

Metaphors and devices, maybe. But there is a difference between, say, fiction in which alien beings are a way of representing Outsiders or Others, and fiction that inquires into the shape that other intelligences and societies

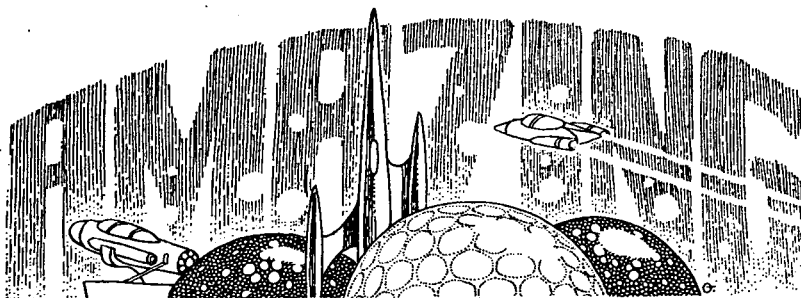
might take.

While we must limit the room we allow for the give-and-take of argument — if you want more, you must get into the swim in SF fandom — we are always happy to get responses such as the above. Your judgments on the stories, certainly — we need to know what we're doing right — but those are not always the most intriguing reading.

Readers who keep in touch with the

magazine may send letters and stories to Box 8243, Philadelphia PA 19101, where they will reach us all the sooner. But we would not like this address reprinted in any market listing. Some people (and what are they doing in SF, the literature of change?) are so slow to keep up with changes that daily we get mail forwarded from the former editorial location in Arizona.

— George H. Scithers

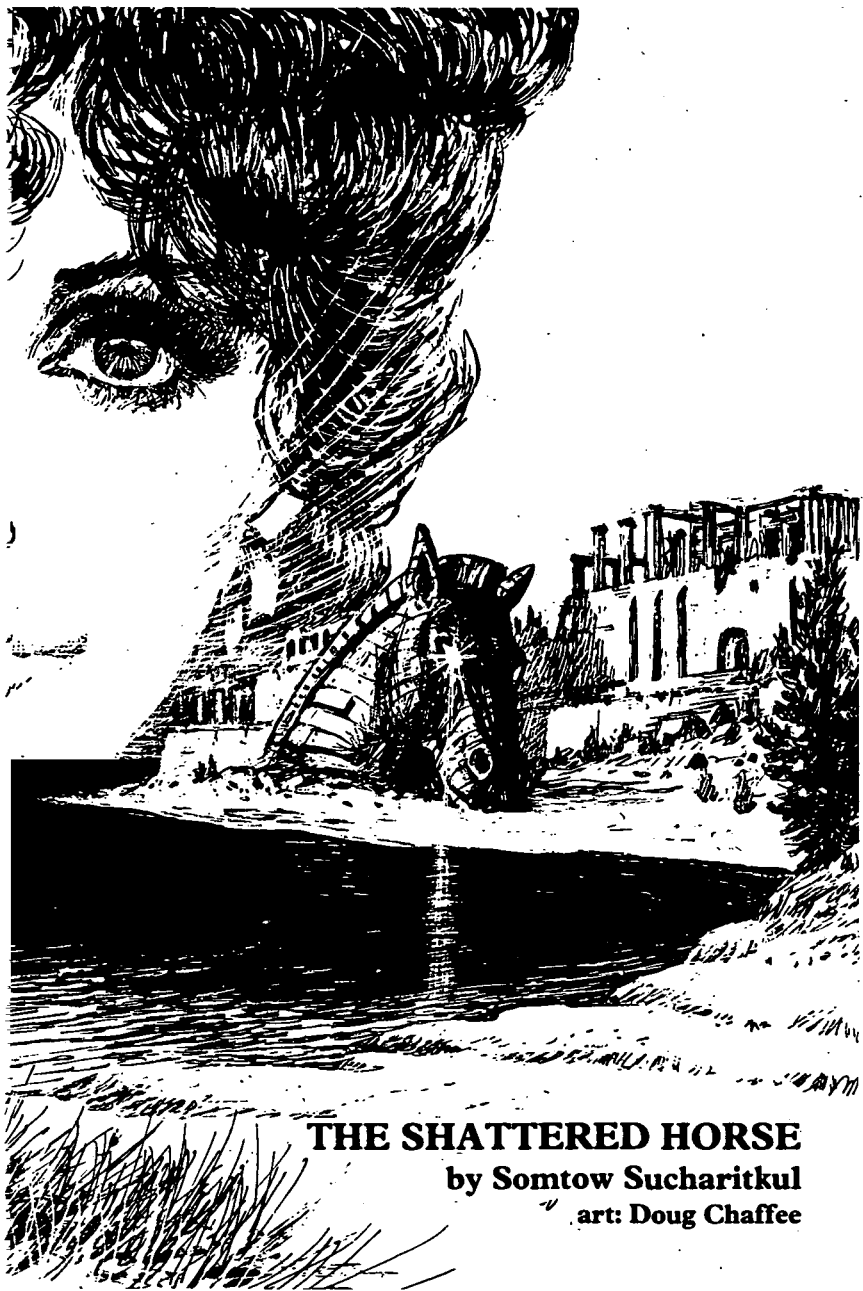


Well, yes; we are looking for stories, and from people who have never sold a story before as well as from long-time professionals. But no; we do not want to see you make the same mistakes, over and over again. So; we wrote and printed an 11,000 word booklet, *Constructing Scientifiction & Fantasy*, to help you with manuscript format, cover letters, return envelopes, and other details of story submission, along with some ideas on Plot, Background, Characterization, and Invention. These cost us two dollars each, with mailing and handling; we'd appreciate receiving this amount (check or money order, please; it's never wise to send cash through the mail). If you want two copies, send us \$2.50; three copies, \$3.00; and so on: in other words, 50¢ for each *additional* copy after the first one, which is \$2.00. If you subscribe to **Amazing™** Science Fiction Stories today, we'll send you a copy of the booklet free.

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THE SHATTERED HORSE

by Somtow Sucharitkul

art: Doug Chaffee

By the time I was thirteen or fourteen they were already talking about the thousand ships. I knew better, but I held my peace; it would not do to let them know yet what I was. They might have killed me. They did not exactly love the House of Priam, though they spoke of it still in fearful whispers. When they looked at me they might have suspected something, for even then I had my father's eyes, his flinchless gaze; but they could have said nothing because they knew I was dead.

In those days I had become old enough for my stepfather to leave me alone on the mountain to tend the sheep for days on end, as my Uncle Paris had once done before they found out what *he* was. On clear days I could see far down into the Phrygian plain, west past it to the beach and the sea; sometimes, even, the shattered horse, its wooden head propped up against my grandfather's broken city walls. I was not forbidden to go there; my stepfather could forbid me nothing, because, in spite of the pretence we kept up for the villagers, he could not bring himself to forget whose son I was. He was an old man, past fifty; when he first took me in I fancied him old enough to be the shepherd to whom my grandfather entrusted my Uncle Paris. All shepherds looked the same to me then, and even at five years old I had known that he must respect me. After ten years I still could not love him, though I was thankful that he left me alone, and that he did not often beat me. It was out of this deference, then, that he did not tell me not to enter the accursed city.

Until my fifteenth year, I never did, though. I listened to the talk in the village, always knowing better than they, seeing myth already in the making. Nights, I watched the plain. Often the chill wind roared, drowning out the bleating of the flock. I built a fire and warmed a little wine in a vessel of baked earth. One night, a clear night, I saw the dead city glow. I knew they were moving back, squatting in old storerooms of my grandfather's palace, laying their sleep-mats down on the cracked steps of its great stairways. I peered hard at the city — I have already said that I have my father's eyes — and saw the shattered horse touched by the pinprick light of many torches. Through its empty eyes the firelight shone, two piercing rays that ran along the sand and into the wine-dark sea. For a few moments the torchlight animated the dead artifact; it seemed to glare at me, angry at the deception I practiced daily.

Why do you tend sheep on the mountain? it seemed to say. But the voice I heard was my own voice: childish, half-changed, awkward. *You're not a shepherd,* it said, *but a King.*

I answered myself, "Kings are for dreams. This is real: the icy wind, the ass-prickly scrub, the stink of sheepshit. You belong to a time that has already become a myth."

You mummify the past: the past, only ten years old, and those who lived it not yet dead! You, who saw the fortress of Priam, the thousand ships!

"A score of ships at best," I said wearily. And the fire in the horse's eyes went out as the uninvited guests in my grandfather's palace moved their torches elsewhere or extinguished them to sleep.

All night long I was angry, remembering other fires long since put out.

... the fire on my father's shield. The gorgon's eyes, blinding in the sunlight, making my own eyes burn.

"He's frightened of the shield." The hands gripped me tight about the shoulders, they swung me up high high high in the sun over the battlements.

"Hector."

He let go of me; I fell into an embrace of muscle, metal. My mother had come out onto the ramparts. "I must bring him here," he said, responding to her unspoken rebuke. "Throw him up, catch him, throw him up, catch him."

"Hector."

"I'm not afraid," I said solemnly, "truly." He dropped me; suddenly my chin was down against a depression in the wall, and I looked out over the battlefield: gray tents, a ship that burned on the water. I turned around; if I stretched tall my eyes were level with his swordhilt. He was worrying at a spot of green on it, scraping at it with a fingernail.

"Will you take me out to the field?"

"Just like his father," my mother said softly, wonderingly.

"When it's over," said Hector. "Before you turn five." He walked away. I saw the sun dance on his helmet.

"Why are you crying, mother?" Her tears had bleared the kohl that lined her eyes.

She didn't answer me at first, but wiped her cheeks with a fold of her chiton; I saw her breasts for a moment. "Just the sun," she said at last. "A hero's wife doesn't cry." She turned away from me to gaze out over the battlefield. I stood with her. She did not always smell sweet like my Aunt Helen. Eventually she told me to go away and play with Leontes, my foster-brother, my slave.

I did not see my father again. That evening they told me he had died, and all night long the women's ritual shrieks blended with the crickets and the frogs. When they burned him they would not let me see the body. Ten years later, a shepherd boy now, I still had not wept for my father, nor shorn off a lock of my hair for him . . . that was one reason I was so afraid to visit the dead city. I did not want to meet his shade, to see his eyes reproach me: his eyes, my eyes . . . I did not dare to stand there and hear in the wind the ghost of chariot-thunder.

* * *

... fire of reflected moonlight on the mirror of burnished bronze that took up almost a whole wall of the room where Leontes and I slept, I on the pallet, the slave-boy on the floor. He was older, but we were the same height. "What are you staring at, Astyanax?" He sat on a cedar chest where I kept my toys: chariots of terracotta, a wooden horse.

"Is there someone else here?" My gaze never left the mirror. Out of the corner of my eye, a shape: gray, cloaked, a death's head?

"No." But as he spoke a cold wind brushed the nape of my neck, though it was summer and the air thick and moist, and all the doors of the palace wide open to let in the slightest breeze. And the figure again. "You see something in the mirror?" Leontes said. Unlike the other townsmen he never spoke reverently to me; his mother had been wet-nurse, after all. They had chosen him for my companion; and when I was bad they would sometimes beat him, because I was the prince, not he.

"Behind you," I said, "the moonlight, a ghost."

"Or a god. I can't see them, but *you* can, because you're the six-times-great-grandson of Zeus."

What god, though? For just a second I thought I could see something clearly, bony fingers reaching out of the dark corner of the room, caressing Leontes's hair. "Thanatos," I said, Leontes gave a shrill shriek. "Don't worry. Soon I'll be where Father is." The figure had melded into the gloom, but I could hear his slow breath and feel its chill. "Light the lamps, Leontes. Do you want to play a game? Open the chest."

We knelt by the cedarwood box and tipped it over, and it yielded its riches: the chariot, the horse-doll, and some things my father had given me: a helmet and a little sword, no toy, the bronze honed sharp against his own grinding-stone. There were screams coming from far away, outside the palace. I did not know if Thanatos was really there beside-us; my grandfather had sometimes entertained gods, I had heard that it had once been almost commonplace in this palace. I had the power to speak to the gods, diluted though it might have been by the six generations since the Skyfather had sired my ancestor. It was not strange that Death should show himself to me. I could not feel afraid, though. I had not even seen my father's corpse; I only knew that he had gone to a far gray country, where one day I would go. I had only heard of the great horse they had dragged into the city that day, because Leontes and I had been playing hide-and-seek in an old wing of the palace.

Leontes waited, wondering what game I wanted. I picked up the toy helmet and put it on his head. He laughed. "You be the prince," I said, "and me the slave." I unclasped my chiton and so did he; it was a game we played often. We traded. I liked the unfamiliar roughness of his chiton, and the funny sweaty smell. "What is your will, master?" I said, aping one of my grandfather's lackeys.

"Fetch, carry, or I'll beat you to a pulp!" He waved the sword.

"Of course, sire, yes, sire," I said, scurrying to obey. He chased me to my pallet, and we tussled in front of the mirror. He had me in an arm-lock, and I looked in the mirror and saw the skullface even more clearly, brilliant in the moonlight, and I saw how alike we looked, Leontes and I; maybe it was true that Hector was his father as well as mine.

"Don't you want to play anymore?" he said.

I wriggled free and pushed him onto the stone floor. The sword slipped, gashed my arm. I cried out. Then men with torches burst into the room, and I heard for the first time the thud of metal footfalls in the palace, and the screams of dying men in the streets outside. I knew that I *had* seen Death. My mouth opened but no cry came out. They were Akhaians who had come in. Blood was on their faces, their arms. A young man swaggered into the room. He stopped, looking from me to Leontes. "Ah," he said. An adolescent's voice, a cruel voice. "My prince." I trembled. But he picked Leontes up in his arms. Of course! The chiton of good wool, the helmet, the sword — I stared at the soldier and the slave-boy.

"I'm the prince," I said, my voice very small.

They laughed: men's laughter, raucous, derisory. But their leader, still clasp my slave in his arms and gagging him with one hand, looked at me with compassion. "You don't have to," he said. "It's not your duty. It's not your war. We have to kill the prince, it can't be helped. Run away. They won't see a kid out there in the smoke, the falling debris." I must have stood there like a statue. Another soldier shook me. "Such a lovely child," the young leader said. "You could almost be of royal blood. Run now, run; maybe you can make it to the mountains."

Leontes's eyes: struggling not to cry, to play the role of prince so that I would not be discovered. He did not scream. Thanatos had not come for me, though I, blessed with Skyfather's eyes, had been able to glimpse him in the shadows.

"You are too compassionate, Neoptolemos," said one of the soldiers to their leader. "We really should kill him."

"Go!" Neoptolemos shouted. The soldier had drawn his sword. Some of our Trojans, half out of their armor, leapt out of the shadows. I saw Neoptolemos swing Leontes like a club and smash the Trojan's face with my toy helmet. Blood streamed from the soldier's eyes. I ran panting into the fire that raged outside. The street was crisscrossed with rivulets of blood. They were raping a woman against the flank of a stone lion. It was Leontes's mother. I tripped over a severed arm. I ran into an alley, and a cloud of smoke swallowed me up. I could hear nothing but the hiss of spurting flames and the shrieks of the dying. I ran like an animal, I, Prince Astyanax, son of Hector and Andromache, last of my line, while Leontes took my place for the last time.

* * *

... and fire in the alleyways ... a flaming woman falling from a rooftop, and the tiles clattering after ... I found Skyfather's temple at the heart of the city. I crept in, mouselike. A single flame burned: the altar-flame. An old man clasped the altar. There was no statue of Skyfather such as the Achaians sometimes built, with a beard and a stern face; only a smooth black stone that had fallen from heaven. The old man wore a robe of white wool, as though he were to be sacrificed. He did not notice me, his grandson, in the deep shadows. I could not see his face.

Rough shouts of men from a corridor outside, the clanking of bronze on bronze. King Priam looked up. Neoptolemos was there, and some other Akhaians. One had my foster-brother's body slung over his shoulder. Now was my moment. I could show myself, insist on my identity. But I was too scared to leave the shadow.

I heard Neoptolemos say, very quietly, "I have come to kill you, King."

My grandfather said, "I know." He did not move.

"Will you not come to me and face death like a man?" Neoptolemos said. He seemed as frightened as I, for a moment. "I don't wish to kill you, a suppliant in Zeus's temple; it is impiety."

"Laomedon was my father," Priam said softly, "who built the walls that you have breached, boy. His father's name was Ilos; Ilos's was Tros, who gave his name to Troy. His grandfather was that Dardanos who crossed the Aegean Sea to found a kingdom in a land of shepherds. Dardanos was a naiad's son, conceived when the breath of Skyfather kissed the wavecrests of the sea. Look, boy, at the stone; it is my father's father's father's father's father's father, and you profane his place."

I have not forgotten these words, because my nurse, Leontes's mother, had made me recite my lineage over and over. When I faltered, she had slapped her son.

They threw Leontes down on the floor. He did not move. Was he already dead? They surrounded the altar in a circle, closing in. I saw a sword fly up and catch the altar-glow; and then blood splattering the flames, hissing, bubbling. My grandfather's head rolled down the steps, to my feet. The soldiers spun around, following the gray round thing. Neoptolemos saw me. I sprinted from the shadows to where Leontes lay. "Leontes," I whispered. My eyes blurred, stung.

A man seized the boy, who stirred a little. He held him tenderly, like his own son.

"I thought I told you to run away," Neoptolemos said to me. "You're very loyal to your master, little slave. But don't follow us around any more. Tomorrow we're going to dash your little master's brains out against the walls Laomedon built."

I fixed him with an intense look, a look of hatred. This was my enemy. Even he seemed unnerved. "Quite the warrior, aren't you?" he said.

"How old are you?"

"Five."

"Tall for your age. Don't think that I enjoy this, little warrior. This old man's son killed my father too." I started to cry. "There now." He hugged me then, he put his bloodstained arms around me. "A man's got to do these things. Avenging the deaths of kinsmen." Even I could feel the insincerity of his words. He needed to be justified somehow. He was only a boy too, after all. He needed to feel loved, to feel compassionate, this butcher. I did not yield, but held myself stiff like a doll. I saw them tossing back and forth the head of my grandfather like a leaky wineskin.

"Let me go!" I whimpered.

He set me down gently, like a delicate carving or a bolt of purple cloth. "Run, run," he said, "and don't let me see you again."

I looked into his implacable eyes. *I will see you again*, I thought, and then I'll kill you! When I'm big.

The soldiers turned smartly around and clanked down the corridor. I ran to the smouldering altar. I embraced the cold black stone. What was it Neoptolemos had said? *A man's got to do these things. Avenging the deaths of kinsmen.* "Skyfather, give me revenge, revenge!" I cried in my tiny voice, knowing the word only from old songs they sang at grandfather's dinner table. Skyfather did not show himself to me. I have met many of the gods, but never my six-times-great-grandfather, who always hides behind thunder when he is needed.

... and pale fire on the battlements, against the brilliant sunlight. I had fallen asleep on the street; I woke up in the shadow of the great wooden horse. The town was empty. Staying in the walls' shadow I slipped down to the Skaian Gate. It was burnt down; only a gutted archway stood, and piles of stone and timber.

I went down to the beach by a secret path where Leontes and I had played. My mother and grandmother and other women were in a pen, chained up, like watchdogs. I did not dare go close, but there were boulders where I could hide.

They brought Leontes to my mother on my father's shield. The one with the gorgon's eyes, whose flame I had once feared. His head had been crushed open like an egg. His brains were drying on his mouth like old puke. I was not surprised my mother did not know him. It was better that she thought I was dead. But in a way I never forgave her for grieving over the wrong child. I would have run out to her, but I saw Neoptolemos and other Akhaians, and I knew he would kill me this time. I slid further into a nook of the rock. The burning city behind me smelled of charred meat.

Suddenly my Aunt Helen was there, behind the Akhaians. It seemed that the sacking of the city had not touched her at all. She had been twelve when my Uncle Paris stole her from Sparta, and now she was a grown

woman with breasts and golden hair that caught fire from the sun and the city's burning. "Whore! Whore!" the women were screaming at her. I heard them say that my mother was to be given to Neoptolemos, to be his slave. There was more discussion that I could not follow. Aunt Helen looked away, whether from boredom or guilt I do not know; she toyed with a strand of her hair. And then she caught sight of me. I had not ducked my head in time.

I saw her eyes: they were the color of the summer sky. Her father's eyes. That was how we were kin, for she was Zeus's daughter, and I his six-times-great-grandson. Her eyes were even bluer than mine. If she had seen Thanatos the night before, she would have seen him much more clearly than I had; I saw at six generations' remove, and she at one. Our eyes met; I knew she recognized me. I had often sat on her lap and played with her hair. She spent a lot of time with the palace children, because the women hated her. She had a special smile for the children she most loved; it lit up her soft features.

I ran from that smile, I ran ran ran to the high mountain. Because Aunt Helen's smile was more terrifying than anything else that had happened in that night and day of fire.

All night I dreamt of fire. At daybreak came dawn over the black mountains. The light awoke me. I had not meant to sleep, to dream; I hoped the sheep had not strayed too far. Philemon my stepfather was beside the fire; he had figs and goat's milk and fresh bread. I moaned. "Wake up, wake up," he said. "I didn't save your life to have you fall asleep and lose my flock." He laughed gruffly; he was not angry.

I said, "The shattered horse spoke to me, Philemon."

"Fantasies, fantasies!" he said. Fear flecked his gray-green eyes. Whenever we spoke of the past he would always grow afraid. He had lost all his children that day because he had sent them to the city, to market, and not gone himself, though it had been a festival day because they were bringing the wooden horse into the city. "I wish you wouldn't think of those things, Aster." They all called me Aster, the star, and not by my full name, for fear that people would find out.

"I can't help it," I said.

"Yes." He broke bread and wrapped it around a piece of goat's cheese.

"I want to go into the city."

"I have never forbidden it."

"I will go this very afternoon."

"Of course. What do you want to find there? Dreams of glory?"

"I don't know." In one swift motion I got up and hugged my stepfather tight. "I dreamt about Leontes last night."

"Will he come back to life, boy, when you go back to Troy?"

"I'm not a shepherd." I let go of him. He smelled of sweat; a winestain ran down his gray chiton.

"You're a king." He looked at me steadfastly, ingenuously. "I've tried to make you into a child of mine, but you're not, you can't be."

"I love you, Father." But I do not think I did. I was grateful to him for rescuing me from the burning city, but it grieved me that he could not remember certain things with me: the toy chest smelling of cedar oil, the gorgon-eyed shield, my father shining in the sun, Aunt Helen's special smile, and the chariots plated with silver-chased bronze that streamed from the city gates in the dawn. When I tried to talk of these things he would shush me and say, "It is senseless to remember these things as though they were real; let the memories grow old and turn into myths. The days will be darker from now on, Aster, and we can't go back." For him, the war had meant a change of masters, nothing more. I did not love him because he did not understand my wonder. Was it merely because he did not carry within himself some spark of Skyfather?

I said to him, "This afternoon I won't herd the sheep. Get another lad. I am going to the plain. To speak to the shattered horse."

I had not used that tone with him before. He smiled suddenly, as though relieved that he no longer needed to pretend to be my father, and he said, "Yes, my Prince," as all the palace slaves once used to.

Then I started on the warm loaf he had brought. I had kept my cloak wrapped firmly around me, but the morning was still chilly. I folded an old rag around a second loaf and tucked it into my cloak; then I started walking down the mountain.

Philemon called after me. "Aster!" I turned. I saw his gray face, leathery, worry-lined. His eyes were not fiery like mine, like my Aunt Helen's. I waited. He said softly, "Leave the myths be. Let the score of ships become a thousand, and the palaces grow into topless towers, and the walls to encompass ten cities. Don't shatter the dream, child."

"That's just the trouble," I said. "I don't think I *am* a child. Not anymore."

"Be careful." He smiled broadly, uneasily.

I turned my back to him, away from the sun.

I stood in front of the Skaian Gate now. They had taken away much of the masonry to build shelters against winter, but the archway still stood. The sun was out but the sky was gray; I do not think there had ever been a sky of brilliant blue since the last time I had stood here, ten years ago. I could hear the sea where lived the naiad, my ancestress. I had drawn my cloak tightly around my shoulders. I do not know why; there was nothing anyone would do to a shepherd boy. Looking past the archway I could see the street. It was much narrower than I remembered it. Beyond it the

palace of my grandfather, a tumble of gray stones. There was still paint on the walls, an old mural depicting the story of Herakles and Laomedon. I remembered that each frame of the story was bordered in gold leaf, which also highlighted the heroes' hair; powdered gold was mixed too in the pigments, so that the mural would seem to come to life at twilight, with the light of the sunset falling on it through the gratings of the gate. It had no more gold, though. Someone — children, perhaps — had scraped off the gold leaf for keepsakes. There were scrawls in strident red paint, in the Mycenaean characters:

𐀀𐀃𐀆

Ta-na-to —

Thanatos.

There were names too, all written in the script that the Akhaian nations borrowed from somewhere east, in the lands of barbarous tongues. I stood in the shadow of the archway and read the names, not daring yet to go in. Someone had attached an exaggerated phallos to Herakles in one frame. People were wandering in and out, bedraggled people, some staring curiously at me. Further into the city there was a market of sorts; I could hear the noise.

Why had I even come, I thought. Better to cherish the memories. I turned away.

But just then a hand tugged at my cloak. "Get away!" I hissed, wishing I had a dagger. I did have a small purse with two silver pellets stamped with my grandfather's mintmark, though. I had to protect it. I whirled around to grab the thief.

A boy oozed through my fingers . . . a high-pitched laugh in the air, a sudden chill . . . bewildered, I looked up . . . a god? Death was the only god I had ever seen; he had not even come for me then, and only the divine sight in me had let me chance to see him.

"Who are you?" I shouted.

Two boys that I knew from the village ran past, paused to look at me, chuckled, ran on.

"Quick," said a small voice. "Behind you." I stepped over the threshold and into the city.

"Who are you?" Still I saw no one.

"Whisper! I don't want to be caught."

"Caught how? Who are you?" I caught sight of him suddenly, shadowslim, slipping into the archway's penumbra. "Leontes —"

He was so gray, so gray. "Let me look at you," I said. "I dreamt of you last night, and the shattered horse spoke to me."

I saw him again, a vague shimmering against the disfigured mural of my grandfather's palace. I could almost see through him. His eyes were

lifeless. "Leontes . . ." I could not speak. I remembered him lying on my father's shield, where I should have lain, bearing my wounds, my broken head, my spilled brains.

"I can't stay long. Come with me. Come to our old room, it's still intact, Astyanax."

"I should have died for you," I said. "You should be herding sheep in the mountains, and I should be there, in the dead lands."

"It's much too late." Again the tiny six-year-old voice; his lips did not move in time to it, but were frozen in a grim smile. "Come on, come on!"

"But how can you come here? Aren't you safe on the other side of River Styx?"

"You ask too many questions, master. They didn't bother to stick a coin in my mouth when they threw me to the dogs. I flit back and forth, I haunt the places where we played once."

I ached for him. "When I die," I said, "I'll bring two coins, and we will both pay the ferryman."

"Why bother? *You* won't need a coin. You're family. Hades is your six-times-great-grandfather's brother, isn't he?"

"They aren't exactly friends," I said. I crossed the stone courtyard fringed with broken columns. Peasants were sleeping in the great hall; they had lit a fire on the cracked stone floor. Leontes passed right through them. I was sure they could not see him. Some of the steps to my old room were broken, and I had to climb on hands and knees. The marble facings were dirty; in places the stones were veined with moss. As we reached the room where we had slept together since I was born, I could see him more and more clearly. It was shadowy in the room, and vines blocked the only view. But the very darkness fed his image, lent color to him; behind the dead gray of his face there was a trace of pink, and now and then life flickered in his eyes.

"I come here all the time, when I can get away," said Leontes. "Why did you come back?"

"Why do *you* come, Leontes?"

"To wait for you," said my foster-brother. "I knew you would come back, one day. Look behind you, in the tangle of vines where your pallet used to be."

I reached behind, my eyes still fixed on the shade of my dead slave and friend. It was something; a box. It fell apart when I touched it. I turned; a toy chariot fell onto the stone. "I kept it for us," said Leontes. "When they came to loot the room, I haunted them. Bloodcurdling howls, skullfaced apparitions, images of a child with his brains slowly squishing out of the top of his cracked head."

"Why?"

"I need you. You're my only friend. I went down to the riverbank where the shades wait for the ferryman. I wore your clothes, your toy

dagger, your glittering helmet, I came on your father's gorgon shield, but I wasn't you, Astyanax. They don't accept me. Even in Tartaros there is degree. A slave doesn't ape a king. I escape when I can."

"What do you want?" I said. "Me to change places with you?" I did not like living a lie. If I could have died then I would have; it was nothing to me. I wanted Leontes to take my place in the land of the living, truly. But Leontes shook his head. For a moment, just a moment, his eyes had glowed as brightly as a live boy's. But their light went out again. Like pouring water on an ember.

"Too late," he said. "It's done now. But I can hover around you, help you, feed on your soul a little."

"Are you a vampire then? Will you suck the life out of me?" I had heard stories from the villagers, who were quite superstitious; they feared such things more even than the gods themselves.

Leontes laughed, a thin little laugh; the temperature fell. He said, "Revenge, Astyanax! I was all yours once; I worshipped the places where you'd been, where your sweet smell lingered; I was your slave not only because King Priam commanded it but because we had suckled at the same breasts, and because I loved you . . . is this love to be worthless then? Look, I even took your death upon myself. And because it wasn't really my own death, I couldn't really die either, I can't cross the river, I can't rest, I have to haunt this room, this ghost of a city. Can't you avenge me, Astyanax? For the sake of this half-death that I'm living through."

I could not look at him. I was so angry, so frustrated. "Of course," I whispered, "there must be vengeance. I am the King, you know. My kin are all dead, I'm the last of Dardanus's line. My father had fifty sons, nineteen of them from my own grandmother. They're all dead."

"I know. I saw them pass over the river."

"Can't you be more solid? Can't I embrace you, or wrestle with you like when we were children together?"

"I'm the past. You can't hold the past in your hands." I reached out; he was so near, so clear against the gloom. But I only hugged the chill air. "I told you so," he said.

"What do you want me to do? Ship over to Mycenae and kill them all? I'm a boy, I don't even have a sword."

"Listen. There was a great commotion by the riverbank today. All the dead knew we would meet. When the war was being fought, all the universe centered on the Trojan plains: the gods watched, the dead watched. Now the fires have gone out, and you living have become as dismal as the dead. Have you noticed how gray the sky has been since the war's end? Color is fading from the world. Soon the past will become a myth. But it wasn't a myth! Myths don't kill, but for this so-called myth my skull was dashed against the walls of this city! Your grandfather's grizzled head was chopped off as he prayed to Zeus!"

I was burning with rage now. I cried out, "How can the gods let this happen?"

"Do they care? No gods visit *us* as we gibber by the bank of the Styx."

"Come," I said, making to leave the room. I had resolved to make some gesture, impotent though it might be, towards vengeance. If it was the blood of heroes that kept the sky blue and the grass green, I would fight someone. I would call on Skyfather himself. He had to listen! I was his son's son's son's son's son's son's son. I had a spark at least of the divine sight. "Come on, Leontes."

"Where?"

"To Zeus's altar," I said. "He's got to show himself to *me*! He's got to!"

"What will you do? Start the Trojan War all over again?"

"I don't know!" I cried out, anguished.

I walked out onto the great staircase and down into the hallway. The roof of the great hall had given way; over the chamber in which my grandfather had once held court, night was falling. I was afraid now. Night is the time of the dead, and I was leading a dead child into the street, a dead child that should have been me.

A colonnade: pitiful stumps now. There: the courtyard of the stone lions; two were still standing. The alleyway I had hidden in, masked from the moonlight by the lions' shadows.

Leontes: a patch of grayness on the lion's back. "Where are you taking me?" he said.

"To the temple."

I slipped into the alley, my cheeks brushing the moist rough stone.

"No," said Leontes's voice. "I don't want to relive it again."

"I must see Skyfather. I *will* see him."

There was the temple: it had no roof. A pack of dogs ran past us; their eyes glittered, their mouths slavered. I was not afraid. Dogs shy away from the shades of the dead.

I looked up: on the lintel, some Akhaian had reached up to carve an initial. He must have been a giant of a man. I remembered looking way up to see that lintel. Now I found I could reach it with outstretched arms. I stepped over the threshold; the far wall was jagged as a distant mountain range. In the center was the altar. Rivers of grass had riven the flagstones; they scratched my feet as I walked up to Skyfather's stone. They had not touched it, but it was overgrown with moss; in the moonlight I saw that it had cracked, and that in the crevice grew a solitary white flower.

I had not remembered it so. I knew I should not have come. I should have remembered it the way it had been when Priam took me there, in his

arms or riding piggyback; and he would set me down on the altar itself, beside the eternal flame. If Hecabe his wife was there she would say "Now, now, that's sacrilegious." But Priam would answer, "Hecabe, the kid's his six-times-great-grandson! Let him sit here and listen to my stories. Let him know truly what he is."

The stories. . . .

"Once," (he told me, as I played with the sacred utensils, the gold-chased chalices, the little bronze ceremonial axe) "our Skyfather did not rule in this land. A different, ancient ruler lived here. She was of the earth. They called her Snakemother, the Triple Goddess, the Queen of Magic. Our ancestor brought with him a sacred stone from Skyfather's house, above high Olympus. There was a king here; he was young and beautiful, and king only because he was married to the living goddess. Each year they killed him and cut him to pieces and fertilized the soil with his blood; they had learned farming from somewhere in the east, where the custom still prevailed. Dardanos became the shepherd-king, and the farmer-king too, for he loved the living goddess, a woman a thousand years old, for she remembered the silver age and she had once visited Prometheus as he lay crucified upon a rock. This woman was ageless. Her face was the face of a girl of twelve, just the age of marrying. It was said that she bathed in virgins' blood, to stay so young. Our ancestor loved her. But when the year was up he would not die. He said, 'Skyfather does not demand such savage sacrifices from his son!' But the living goddess said, 'You will blight the crops, and a terrible plague will come, because the ground hungers for a king's blood.' But our ancestor was wily. He found a slave whose features resembled his. He dressed the slave up in his garments and invited him to play a game: let the slave be the king, and the king the slave. And the priestesses came to kill the king, and they caused his body to be fed to the earth, and his flayed skin, stuffed with grain, to sit on the throne for three dark days. On the third day the living goddess came to the throneroom to dispossess the empty body of the king, for she had found another lover. But the corpse moved and spoke to her; for Dardanos had come in the night, and spirited it away, and had sat in wait all night for her to come to him. She said, 'You *must* die. You have tricked Snakemother.'

"But Dardanos said, 'I will not die. I have fooled the earth, and I will fool her again. I will set up Skyfather's stone on the altar of Snakemother; and I will rule in your place, for the reign of women has come to an end.'

"The goddess said, 'I will be avenged. I will blight your issue and destroy all your works.'

"But nothing happened for a hundred years, little one. We grew strong; Tros built this city. Grain sprang up plentifully in the fields. The flocks multiplied. And then the day came when Tros decided no longer to

sacrifice a young slave to be ploughed into the earth. And still the crops and flocks were not struck down. So tell me, who rules the universe; Skyfather, or the Queen of Magic?"

I asked my grandfather where the Snakemother had gone; she frightened me. He said, "She has vanished, my grandson, as the night is dissolved by the sunlight. And now the days are brighter than they've ever been. The stones of the palace are adazzle with gold dust." I said, "But Grandfather, Grandfather, my dreams . . . the gorgon on Father's shield. . . ."

But Priam said only, "She has gone to nightmares, to shadows. She no longer dares to show herself in the light. She has no virgins' blood to bathe in, and so she has become a hag. Her eyes are like coals, and the hair a mass of writhing snakes. Her offspring are as hideous as she. But we can't be afraid of a nightmare, can we, boy? We'll put them on our shields to frighten the enemy, but *we* must not fear them. We are the light, and they the darkness."

"But won't the Snakemother know one day that we have stopped killing the king? Isn't she hungry, Grandfather?"

"No." Priam played with my hair. I trusted him more than anyone. He was the oldest man I had ever seen; I thought he must have been born at the beginning of time. "No," he said firmly, "we have withheld the kings' blood so long, we have starved her to death."

"But the gods are immortal!" I said.

The king looked away then. He was grieved; I did not know why. He should have been happy, because the temple was awash in sunlight, and a breeze blew in the portico, fanning the altar-flame.

But now, across the ten years' chasm, I understood his grief at last. I had reminded him that the gods do not die, and that they do not have compassion as we know it. They are immortal, but they have never grown up, either.

"Leontes . . . I just remembered . . . how Dardanos overcame the Snakemother by killing a slave when he should have been killed himself. . . ." That was what I had done to Leontes. The war had wiped out the king's blood, all but mine. Perhaps Leontes had fooled Snakemother; his mangled corpse had fooled *my* mother, after all. The Fates weave endlessly, but there is only one tapestry.

The wind wuthered in the dark streets; perhaps it was Leontes crying. "Don't cry," I said, "be comforted. I'm sorry for stealing the life from you, Leontes. If you were here we could herd together, you and I, and when one of us fell asleep the other would still be watching. Oh, I know. I always fell asleep before you; it was your duty to see that I slept, and my whim was to stay up playing by myself, you had to watch me, rubbing your eyes to keep awake. Maybe it would still be that way."

"You don't understand," Leontes said. "I am dead, Astyanax. Do

what you came here for."

A stillness fell in the ruins of the shrine. I went to clasp the stone of Skyfather. I knelt beside it, burying my face in the moss.

"Forgive me, Skyfather," I said. "I've been a coward, I've waited ten years to come back to you, I tried to run away from the pain. The Akhaians have gone back to Mycenae and Sparta and Ithaka and Phthia and Argos. My mother is a slave in the house of Neoptolemos, whose father, Akhilleus, killed my father. Will you give me vengeance, great-grandfather?"

I got up. I gathered wood from the street; fallen branches, dead twigs. I piled them up on the altar, and I labored until I had kindled the heap and relit the altarflame. "You see?" I murmured to my ancestor, "you aren't forgotten. Perhaps you'll shine on us tomorrow, and stain the sky blue for us again. Please, please, Skyfather, show yourself to me. There must be a reason why I was saved and Leontes sent to the dead lands in my place. Surely you didn't decree this for nothing, Skyfather! I will rekindle all your altars in this land. I will rebuild what your son built. Skyfather, listen to Priam's last grandchild."

I heard an explosion, infinitely far . . . could it have been thunder? My heart leapt up with hope. "Skyfather!" I cried. But there was no answer. I fed the flames until they blazed.

Skyfather did not answer me. And then the fire began to drip from the altar like liquid. Streams of it over the flagstones. Jets of fire poured skyward. From the altar came curving lines of light that spun around and around, building a whirlwind of fire around it, and I stood numbed with fear as the fire enveloped me and the heat scorched me but did not scar me . . . I screamed and screamed . . . a boy sprang out of the flames, stamping on them. I saw winged sandals. His hair was gold and fiery; I could not tell where it ended and the flames began. The roar grew stiller. The boy cried petulantly, "Out, out! You can't burn me, so go away!" And he stamped his foot again and again; each time the fire subsided a little. Suddenly he saw me; and behind me, the gray shade of Leontes.

"Hey, you spirit-thing. Dead or alive?" he said. His voice was inhumanly beautiful.

I whirled round to see Leontes. "Dead, my Lord," he said, his voice quavering; already he was fading, melding with the gray stones.

"Begone!" said the boy out of the fire. "I've business with *him*."

"He can stay," I said. "He's my friend."

"This is the business of kings."

"Are you Skyfather?"

He laughed, a silvery, impersonal laughter. "Skyfather! Skyfather! You're joking, of course. Skyfather does not come when a boy calls, not even a six-times-great-grandson. Do you know how many six-times-great-grandsons he has, my little cousin? Thousands! Only desire can

rouse Skyfather from Olympos now. Io. Europa. Leda. You look a bit like him, boy, but you're no Ganymede. But here I am, little cousin. What do you want?"

"Who are you?"

Another laugh. He sat on the altar, swinging his legs, an impatient boy. "I am your cousin Hermes, little one. You should feel honored that you got even me to come down to this gray, dank world." He touched my face; his fingers were cool, like marble. There was a certain family resemblance between us, but I wore a chiton of coarse wool while he was clothed in sheets of blinding light.

I said, "I want to be king."

"You already are, aren't you? Who has taken that away from you?"

"You know very well. Let me speak to Skyfather." I tried to push him aside, to get to the altar and repeat my prayer.

Hermes caught my arm and twisted it. A sharp pain. "Now, mortal cousin, don't overstep yourself. How foolish of you to think that my father would talk to you in person, that you could just drop into his house and demand to see him! Does a slave demand to see a king? You should know better. Remember Semele, the mother of the god Dionysos. She demanded to see Skyfather . . . the sight of his glory seared her, burned her up, killed her. You are so young, little cousin."

"If I am to be king, give me the instruments of vengeance."

"Such as? A gorgon-faced shield, perhaps?" He reached behind the altar and plucked it out of the air. The eyes of the gorgon caught the light, for a second I was a five-year-old boy again. I gasped.

"Where did you get it?"

"What are gods for, little cousin?" I reached for it, but he yanked it from my grasp and set it down on the altar. From behind he drew out a helmet, a sword . . . I recognized the sword, with the syllabic signs

ΑΥΤ

— *E-ko-to* — etched into the bronze blade. I remembered the helmet and the armor. "You can't touch it yet. Are you worthy? Can you prove you are Hector's son?"

"Will you ask me riddles?"

Another boyish laugh. "You've heard too many old men's tales. Of course there aren't any riddles. Am I a Sphinx? I'm only your cousin, come down from heaven for a nighttime chat."

"There must be a test!" I said.

"Indeed," Hermes said, sighing. "Skyfather's light is such that he must clothe himself forever in a thick darkness, or the world would be blinded. That, at least, is how the divine rhetoric goes. And me? Fetch

and carry, flit hither and thither, that's me. We're not that different, you and me, except that I have to go on forever. Forgive me, Astyanax, for mocking you."

"You are a god. How shall I forgive you?"

"From where I am things don't look as clear as they do to you mortals. Oh, Astyanax, little cousin, Skyfather has sent me to tell you this: that in exchange for your father's armor, which will win you great glory, you must do him a favor too . . ." He reached into his tunic of light and pulled out a golden apple. He threw it up; I caught it. There was an inscription: *for the fairest*.

"For the fairest! But my Uncle Paris already went through that."

"Mortal wars end, Astyanax, because you all must die. But war in heaven goes on till the end of time. Look, behind you."

I turned.

There were three women . . . or were they one? Sometimes they were beautiful; sometimes their faces shimmered and became harpy faces with serpent hair.

"There they are," said Hermes. "Hera, Queen of Heaven; gray-eyed Athene; and Aphrodite. You shall give the apple to the most beautiful . . . it isn't hard. It's been done before."

"This isn't how I heard the story!" I said. The women shifted faces; now they were all beautiful. "You aren't the three goddesses at all . . . you're the Snakemother, the Triple Goddess . . . how can I choose when every choice is the same?"

"You must choose, little cousin."

"I won't," I said. "I'll go home and tend the sheep, and sleep nights on the mountain watching the stars, and I'll forget I ever was a king."

"No you won't. We are what we are. It's not hard, Astyanax. Ask them how each will bribe you. That's how your uncle did it."

I spoke to the whirling light that was one woman, three women. I said, "Hera, my Skyfather's wife, what will you give me if I choose you?"

A voice came from the whorl of radiance: a grave, mature voice. "Astyanax: power is mine, and kingship. I will make you king of all the Akhaians. You will rule for a long time; in your reign Skyfather and I will be reconciled. I will not begrudge him his many loves; I will mother the world and give it peace. You want revenge, don't you? I will give you power over all those who killed your father and your grandfather."

I was tempted. I held out the apple to her; but as a ray of light shot out to seize the apple I remembered the story of Dardanos and the Snake-mother. I said, "You are Skyfather's enemy. You'll twist my fate against me." I snatched the apple back. "And you, Athene?"

Came a second voice out of the light: mild, haunting. "You are right, little cousin Astyanax. She has always hated our father. There's no reason she would change suddenly. But I will give you both wisdom and

strength in battle. In war you will be invincible; in peace, all-wise, compassionate. Of all the gods, I have the most compassion, because I am a piece of Skyfather, born without woman. Of all the gods I am most kin to you. . . .”

“Oh, Athene,” I said. “A man must wreak vengeance on his father’s killers. If you give me your compassion, my revenge will give me no joy. . . .”

“That you know this,” said Athene, “shows that you already have within you the germ of a great compassion. We are so akin.”

I was more tempted by her words than by Hera’s. But sometimes, as the light flickered, I still saw the withered face of the earth serpent. I doubted. I asked for Aphrodite.

The light resolved into a woman. The woman smiled at me. It was Aunt Helen’s smile. The smile I’d run away from, ten years before. Now I knew why I had been so afraid. I had foreseen this moment. The woman smiled, Skyfather’s fire blazing in her eyes. “No!” I cried. “No, no!” With all my might I threw the apple into the womanflame; it sputtered and was spent.

I was alone with my cousin Hermes. There was a small fire on the altar, and a moonbeam fell on the green-black stone from Skyfather’s house.

“You have chosen,” said Hermes.

“Yes.”

“They will come again in their thousand ships.”

“No more than a score; perhaps only a dozen now, because so many of them are dead.”

“Come, take Hector’s armor. You have earned it. Skyfather is pleased with you.” I stared long and hard into my immortal cousin’s eyes; they were so familiar. Of course they were. My father’s eyes, Skyfather’s eyes.

“Do you pity me, Hermes?” I said.

“Pity?” The boy stood up on the altar. The wings on his feet fluttered so fast they could not be seen, like dragonflies’. “Pity? I am a god.” And he was gone.

Philemon was shaking me awake. “Was I dreaming?” I moaned. I reached up to rub my eyes; my fingers found metal. The helmet. “Philemon —”

“I knew you’d be here. Look, the sky, Aster.”

I stretched, stood up. I was wearing the armor of my father. I took off the helmet and placed it on the altar. I looked skyward: something had splintered the grayness. Something like painted lightning-bolts, zagging across the sky, and behind them a soft blue light. Skyfather was beginning to peel back the curtain of grayness then.

Philemon said, "Outside there are lads from the village, waiting for your words." He seemed nervous. He wiped at my breastplate with an old torn chiton. He had turned overnight from a father to a slave.

"You don't have to tend me, Father."

"It wouldn't be right for you to call me that, master. Not in front of *them* outside."

"But . . . whose arms will hold me when I falter?" I was panicking now. So much had changed. The cracks in the gray sky showed that what mortals did could affect things in heaven itself. I was more afraid than I had ever been before.

"Whose arms will hold you, master? You are the King. It is *you* who will comfort *us* when we suffer, who will feed us, oversee our births and deaths. Troy has been kingless for so long, and people have forgotten a lot. You are our only link with the gods. . . ."

"The gods are not as you suppose, old man," I said, and I remembered Hermes, golden-haired, petulant, pitiless. "I have seen them and you have not." And I told him what had happened: how I had had the chance to choose a new path for Troy, to choose the way of Hera or Athene, but instead had doomed myself to follow that smile of killing beauty. "But before I pass on to the underworld," I said, "I will see the cosmos restored to its full color, and I will see Troy strong again, I promise you."

Philemon was trembling now. "To think I had you in my home, I nurtured you, hugged you to sleep when you were a baby . . ." He was weeping.

I said, "I have not stopped being your son, Philemon, just because I am Hector's." I wanted him so much to hold me, even to punish me for coming into the city. "I've done nothing to prepare myself for being a king," I said. "I'm not ready."

"You were ready to come down into ruined Troy, weren't you?"

"But I didn't know!"

"You are the last of the Dardanids, Astyanax, the last of the Trojans to possess your Skyfather's vision. What *you* cannot see, how shall one of *us* see?"

I looked around. I tried to see Leontes's shade. But he too had gone; for he was a thing of the night, easily dispelled by the sunshine. In the unwonted brightness, the jags of moss in the flagstones glittered like slivers of emerald.

"What shall I do now?"

"Show yourself," said Philemon, "to your people. Go to the palace; stand on the balcony that overlooks the marketplace."

I thought of something suddenly. "The flock, Philemon! Who is looking after our sheep?"

He just looked at me. His eyes sparkled.

"You —" I said.

"The time of shepherding is over for me."

I walked to the entrance of the Temple.

First came the wild dogs, barking at the gleaming armor. Then — our sheep, swarming in the street, and laughing boys at play. They looked up when they saw me; they tittered among themselves. Finally one of them said, "Hey, Aster! Where did you get those clothes?"

"Sold all your father's sheep in the night?"

"Peddled your ass to a Phoenician sailor, then?"

There was no enmity in their voices, though; so I just smiled. Presently they stopped making fun of me, because they saw that Philemon had fallen on his knees before me. Some older men, Philemon's friends, had come down this street, attracted by the commotion. When they saw me they became agitated. One cried out: "Hector, Hector to the life!" And he began to weep; soon the old men were all weeping, and shouting for their wives to come.

The boys stared at us; this talk meant little more to them than the drunken war-reminiscences of braggart fathers who had probably cowered behind the lines in the real war. The brave ones had all been killed, including my fifty uncles.

And then the old men took up the cry, "Will you rebuild the walls, and make us strong again? And will you bring Helen back to us?"

I remembered the half-smile of Aphrodite that had caused me to reject all reason and to throw her the golden apple. . . .

I heard their cries now: "You'll bring her back, and you'll fend off the thousand ships again —"

"Glorious Hector's son has come back to redeem his people's honor —"

I did not want war. I wanted it to be like in the age of Dardanos, when we had duped the Snakemother and imposed peace on the land. I tried to speak out, but I could not; for the shepherd boys, exhilarated at the talk of bloodshed, surged forward now to touch my armor, to drag me up, high, riding on their shoulders, to the ruined palace.

As we turned the corner that led to the square of the shattered horse, I saw that the news had already stormed the town. Thunder and lightning and portents had been seen as far away as Mount Ida, and stray flames leaping from Zeus's altar had incinerated the thatching of village huts ten stadia from the walls. Or, if it were not true, there were a dozen willing to swear it so. There were several hundred people squeezing against the walls, squatting between the horse's legs, their children squirming on their shoulders, their dogs and pigs and sheep playing tag among the sea of legs. I raised my father's gorgon shield, and a dozen infants wailed in terror, as had I once. Then came a ragged raucous cheer, punctuated by the bleating of lambs and the yelping of dogs. It was strange to me, who could vaguely remember long lines of soldiers leaving the Skaian gates

like links unreeling from a long gold chain, and the crowd roaring summer thunder and the lightning from sundrenched shields and helmets of burnished bronze . . . the young children had no idea, and the old ones did not see the reality, only the past, ten times more glittering in the thousandth telling. . . .

Philemon was by my side now. I turned to him, desperate. I said, "I'll order the walls built; order the youths trained in fighting; order that games be held to celebrate; intercede with Skyfather on the kingdom's behalf. But surely I'll not go and fetch Aunt Helen back from Sparta, and revive all the ancient horrors. How can the old men have forgotten how terrible it was? I'll have peace here, do you hear?"

"It's not me you have to convince," Philemon said.

And in my heart I knew that I had sworn vengeance against Neoptolemos that day ten days before, an oath that my own Skyfather had witnessed in his most sacred shrine; that the world was sick and gray and I wanted the color to return to it, even if it meant pouring out my life's blood in libation, to appease the earthmother my ancestor had wronged a hundred years ago. I knew what the gods wanted.

But perhaps I could buy time. "After all," I said aloud, "we haven't any ships."

But the crowd-roar swelled up, deafening me, killing our conversation.

I raced for the palace now, the crowd running after. I reached the threshold: the old frescoes scarred with the Akhaian's graffiti were on either side of me. I hesitated. Was it hubris, to pretend that I could be like my father, who slew Patroklos and a hundred other heroes? I drew my father's sword.

The crowd was hushed, awed, waiting. Now and then a child jostled another. I stepped across the threshold into the first roofless courtyard. The pillars, fire-scoured, showed only traces of their once bright red paint. Ahead was the stairway; on the steps, a man lay in a woman's arms, wrapped in a cloak. They were asleep. I was kicking them awake in a moment. "Up, up," I shouted, "I'm home now, the King is home."

They sat up; the woman held the cloak up to her naked breasts. The man was burly, curly-haired. "A boy in shining armor!" he mocked. "Come to oust us from our only sleeping place!"

"I'm the King, I say."

A few of the crowd had crept in behind me. They shouted encouragingly: "That's our boy! That's Hector's kid! I'd know him if I was blind!"

The man laughed. "It's not even your armor, boy, it's far too big for you."

I was furious. I raised my sword, hefted it from hand to hand. I did not mean to kill the man, but the sword was too heavy for me; it dragged my arm down, smashed into his neck. Blood gushed up from an artery. He

looked at me stupidly, then toppled. The blood ran down the stair, clotting against the moss-veins of the stone steps. I was appalled for a moment.

The woman stood up, naked. She was middle-aged, perhaps thirty years old, but still firm-bodied. Her hair was long and black and fell in ringlets over her breasts. She stared at me like a snake poised to strike. For a second I thought I saw vipers writhing in her hair. Then the woman said, "It is good that the man should die. You are King, but you have not paid the price of blood. Now you have fooled the Snakemother, and your reign will be prosperous . . . until you forget that she still lives, boy."

"I am of Skyfather. Your Snakemother has no place *here*, in the land the Dardanids wrested from her. Who are you?" I said wonderingly.

"Ha, ha! Priam had many secrets, little one. Didn't you know that the Snakemother was never really exiled from Troy, that there was only a truce, not the victory Dardanos claimed?" She cackled unpleasantly. I saw that her teeth were rotten. "Come, child, anoint your face with this suppliant's blood, that you may dupe my mistress for a few more years. . . ."

I bent down. The blood burned my fingers. I smeared it on my face; it hissed like water on hot hearthstones. I said, "Get out of this palace, woman! Practice your witchcraft in the mountains. Here we will have



only light." And even as I spoke the sky's blue seemed to deepen, and sun to shine more fiercely; for there were puddles on the flagstones, and they shone like mirrors.

The woman said: "The sky may be your father, little one, but remember that the earth is your mother. Do not forget her on whose bones you daily tread." Before my eyes she shrivelled; her face wrinkled like an old rag, her teeth turned black; I saw the snakes clearly now, twisting, twining around her head.

"Go!" I shouted.

She vanished in a whirl of smoke.

Now the others surrounded me; some of the children poked at the dead man, others stared at me, knowing awe at last. I saw a shepherd boy I knew; we had often kept each other company on cold lonely nights on the mountain. I called out his name: "Dion, Dion; won't you come embrace me, your old friend?"

He looked away.

"She's gone, that ugly old bitch!" I said. "I have sent her away."

I looked from one to another. Suddenly I realized that none of them had seen what I had seen: only that I had killed a man and exerted my right to be King. Perhaps they had seen a young woman running away in tears, waiting for her husband's death. They had seen no Snakemother. They did not even believe in the old gods, after all.

Then Philemon came up out of the crowd. "It's all right, King," he said. "All things have a blood-price, kingship included. It was a divine madness that seized you; now the gods have had their libation."

"Who was this man?" I said.

Someone turned him over. "Don't know." Another said, "Stranger. Never seen him in my life."

I said, "Take him. Bury him with kingly honors." Philemon looked at me strangely. "I know what I'm doing, old father," I said.

The old man turned to the crowd; they had all streamed into the courtyard and were crushed together, squeezing against the walls, straddling the broken columns. He kissed me on both bloody cheeks, calling me by the ancient title of *wanax*, king above kings. At the utterance of that sacred word excitement rippled through the crowd: and soon they were all shouting "*Wanax! Wanax!*" And the sun's rays shot through the slits of the eyes of the shattered horse whose head reared up from the nearby square over my stunted walls. It was too much. I ran up the stairs, slippery with the blood-offering, into my old room, which was still cool and dark because of the overgrowth of vines.

"Leontes!" I cried. "Leontes! I need you now; my kingship has orphaned me and made all my friends afraid of me . . . I can't bear it, Leontes, I wish I could change places with you. . . ."

Suddenly, like a little boy, I began to cry.


And I heard my mother's voice, from ten years ago, before the walls fell and the city was burnt up: *A hero doesn't cry, Astyanax.*

But I could not stop now. Thank the gods that I was alone. I was ashamed. I could not bear to be seen.

Presently my sobs subsided. I knew they would be waiting outside, and that I would have to come down with decisions, plans.

I sat down on my old pallet.

The toy chest was open; the warm fragrance of cedar oil filled my nostrils. I picked up the terracotta chariot and put it down and gave it a shove. At that moment I became aware of another's weeping in the room; or was it a trick of the wind? A little child weeping helplessly, fearing darkness perhaps . . . "Leontes?" I said. There was no answer, but I think I felt a little comforted.

I said out loud: "I am a hero. I am a King." And suddenly, for the first time, I felt those words begin to ring true. 

Sonnet of the Dark

A warlock once gave me a string of pearls
of silvery black, of luminescent night.
And as he fixed them round my throat, he said,
"Black pearls, like roses, have their thorny bite.
For pearls bring tears, or so the legend goes;
though for your love, I charm the tale undone:
You cannot weep while wearing pearls of black
till I have seen my final setting sun."
I have not wept since then, just as he spelled,
though he has left and I am here alone.
No tears of joy, nor tears of sorrow deep
shall ever melt this conjured heart of stone.
Beware of skeletal hands in velvet gloves.
Beware a warlock smiling as he loves.

— Susan Heyboer O'Keefe

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KEEPING UP: The SF Reader's Guide to Science Magazines

by Fred Lerner

REVIEWS

The author was trained as a librarian (D.L.S., Columbia University) and is presently Head of Technical Information Service at an R&D firm. As such, he spends much of his working day scanning science magazines.

He is a science-fiction fan of long standing; his doctoral dissertation, now being revised for book publication, was on SF's changing reputation in America.

He lives in White River Junction VT with his wife Sheryl and their pure-bred Vermont barn cat, Mostly G Underfoot.

We've come a long way since 1665. In that year, the first scientific journal began publication, and the rapid communication of hypotheses and discoveries transformed science into a worldwide cooperative endeavor.

Most of the scientists who ever lived are working today. Their discoveries have changed all our notions of how the universe works, from the nature of galaxies to the composition of subatomic particles. The technology our engineers have distilled from their work has transformed every aspect of our lives. And people's reactions to the discoveries of modern science and the inventions of modern technology are shaping our politics, our religions, our arts, and our economy.

Despite their significance, science and technology are neglected by most of our news media. Perhaps that's because it takes a bit of work to understand a science news story; or maybe it's because a lot of people are scared out of their wits by the changes wrought by science and technology. But most of us read science fiction because we are fascinated by scientific and technological change, and by the social changes they bring with them. Our problem is that all this is happening too rapidly for us to follow conveniently. How can we keep up?

In the 17th century that was no problem — there were only a few scientific journals being published. Today there are thousands. The vast majority are highly specialized titles reporting the latest advances on the research frontier of a particular sub-discipline. But there are a few which attempt to inform the non-professional of the major trends and activities in science and technology.

In the past few years, science has become one of the fastest-growing areas in American magazine publishing. There are handsome, well-written magazines covering almost every area of science and technology. At any well-stocked newsstand, the choice of titles is embarrassingly wide. And several of the most interesting ones aren't readily available except by subscription. So to help *Amazing* readers make their selections, here's a survey of science and technology magazines for the science-fiction fan.

Our concern here will be with those magazines that cover a wide range of science and technology, written for non-professionals of various levels of scientific background. Thus we omit *Nature* and *Science*, two weeklies which serve as the house organs of the British and American scientific communities. These journals are published for professional scientists, and the bulk of their contents consists of reports of original research; but their editorials, news reports, letter columns, and book reviews are the leading forums for discussing the theoretical and practical concerns of the scientific community. We'll begin with a few titles published for the serious reader: for the person, whether scientist or non-scientist, who is committed to keeping up with new developments as well as recurring concerns in science and technology.

This readership has long been regarded in America as synonymous with that of *Scientific American*. It is the best-known American science magazine, and the most respected. It's widely read by scientists and non-scientists alike, and deservedly so: its articles are authoritative, and often imaginative in their approach. They are written by researchers active in the areas about which they write, rather than by an editorial staff removed from the field and the laboratory. Each issue contains eight articles (usually nine or ten pages in length) as well as several columns. "Science and the Citizen" comments on social and political issues raised by science and technology, and the "Books" column offers some of the most detailed book reviews anywhere. There is traditionally a mind-exercising column in the front of the magazine; long by Martin Gardner and then briefly by Douglas Hofstadter, it is now "Computer Recreations" by Brian P. Hayes. There's no doubt that *Scientific American* is an excellent magazine; but its stodgy illustrations (surprisingly little color is used in the magazine) and heavy prose often make it duller than it really needs to be.

To see what I mean, compare *Scientific American* with its British rival, *New Scientist*. Published every Thursday in London, it is read throughout the world; copies reach North American subscribers in a few days, airfreighted to New York where they are put into the U.S. mail. *New Scientist* isn't so much a science magazine as it is a news magazine covering science and technology, and their cultural, economic, political, and social consequences. Now, that covers most of human activity — and

practically all of the subject matter of science fiction, which may be one reason why many SF writers read, and write for, *New Scientist*.

The magazine covers current science news as well as new research reported in the specialist literature. Editorials, opinion columns, book and media reviews, puzzles — even a comic strip — supplement the four or five feature articles to provide coverage of every facet of science. These feature articles are shorter than those in *Scientific American*, and written by specialists active in the field; they're quite readable, and well illustrated. For the science-fiction fan, the "Ariadne" column at the end of each issue contains a special treat: a weekly bulletin on the latest scheme of Daedalus, inventor extraordinary of plausible but impossible contrivances.

New Scientist is a British magazine, offering a British and European perspective on scientific developments (including American ones). It's expensive; but \$90 a year isn't all that much for a weekly that provides several hours of stimulating reading as well as several years of permanent reference value (aided by the quarterly indexes sent to subscribers). For the SF reader with a strong interest in the scientific and technological background to contemporary science fiction — and, for that matter, to contemporary life — it is easily the best science magazine in the English language.

Two other magazines provide broad-ranging coverage of the sciences at a level similar to *Scientific American* and *New Scientist*, but they are much less known. *American Scientist* is published bi-monthly by Sigma Xi, the Scientific Research Society. It's obviously edited for the working scientist, but its format and content are attractive to non-scientists as well. It covers both the hard and soft sciences, ranging from archaeology and anthropology to mathematics and particle physics. Articles are well illustrated and amply documented. Each issue reviews more than sixty books, many of them quite specialized titles. An unusual feature of *American Scientist* is the cartoons; each issue contains several, all professionally drawn, scientifically relevant, and very funny. (A collection of them has recently been published.) Although *American Scientist* is the Sigma Xi membership magazine, society business takes up only a page or two of each issue. The rest is sound science, well described for the intelligent reader.

Another membership magazine is *The Sciences*, published ten times annually by the New York Academy of Sciences; like *American Scientist* it serves a general rather than a parochial audience. The Academy gives a broad definition to "the sciences": its emphasis is not on pure science as such, but rather on the role of science and technology in human life. *The Sciences* is a handsome magazine. Its articles are literate, and more likely to be illustrated with classic paintings (chosen for their appropriateness to the text) than with equations, formulae, or diagrams. Its book reviews are

really substantive essays, encapsulating the scientific and historical background to the titles under discussion. Where *American Scientist* emphasizes scientific discoveries, *The Sciences* stresses their implications: together they provide lively but sound coverage of that wide sphere of human activity centered on science and technology.

As technology comes to play a more prominent role in our economic and political life, a market has arisen for succinct technological journalism. Some of the best writing about technology may be found in the leading business magazines, especially *Forbes* and *Fortune*, whose executive readers need at least a nodding familiarity with the technologies that will make or break their companies in the years ahead. And there are hundreds of trade journals devoted to reporting and analyzing developments in specific technology-based industries. Such magazines as *Electronics*, *Aviation Week & Space Technology*, and *Datamation* are indispensable to anyone who needs to keep up to date. Fortunately for the reader whose technological interests are less narrowly focused there are two excellent American magazines which offer broad coverage of applied science: *High Technology* and *Technology Review*.

High Technology is edited for the business executive with a strong technical background, but it should interest anyone concerned with contemporary industrial technology. Recent articles have explored navigation satellites, fiber-optic sensors, new petrochemical feedstocks, and acoustic microscopes, as well as sociopolitical issues such as government control of technology exports and the antitrust liability of engineering societies. A typical *High Technology* article tells *what* is happening in one particular area of technology, with sidebars to explain *how* and *why*, and examines its present and future markets. Articles are readable and very well illustrated, with many colorful schematic and cutaway diagrams. *High Technology* offers an attractive way to learn about a wide range of sophisticated technologies.

Technology Review is the alumni magazine of M.I.T., but the edition published for general subscribers omits all the tedious class notes and fund-raising pitches. Instead you get a substantial diet of articles on technology and its impact on society. Recent topics have included acid rain, the costs and benefits of nuclear power, the future of the American automobile industry, and the industrial success of Japan. The emphasis is on the text, though there are photos, maps, and diagrams where appropriate. If you're attracted to science fiction for its extrapolations on future technology and the ways in which societies adjust to it, you'll find a lot of food for thought in *Technology Review*.

We've been looking at several magazines aimed at the reader able to spend several hours and some concentrated thought on science and technology. There's also a good range of magazines for those who need a quicker or lighter diet of science news. The range of quality is less

uniform in this class: there are some first-class titles and some pretty poor ones. I'll describe them briefly here, and let you judge which will meet your needs.

Science News is precisely what its title suggests: a succinct weekly report on scientific discoveries and developments and their impact on science as a whole and on society at large. Each issue contains four or five pages of "Science News of the Week," a page or two of "Research Notes" covering recent findings in one or more scientific fields, and one or more longer articles on specific topics. Coverage is broad, neglecting none of the principal fields of science and technology; and *Science News* also reports on the relationship of science and technology to government and society. Its low price, broad coverage, and easy readability make *Science News* an obvious choice for anyone wanting to keep up with science and technology, but it has one serious weakness. I find *Science News* a bit too matter-of-fact. Its compact format contains a lot of information, but all too little of the excitement and frustration and just plain sense of wonder that characterizes contemporary science.

If what you want is entertaining and informative reading about science rather than comprehensive news coverage, you'll find several good magazines to choose from. *Natural History*, *Science 84*, *Smithsonian*, and *Technology Illustrated* are all well-written, colorful, and authoritative; choosing among them is more a matter of taste than of their relative merit.

My favorite in this category is *Natural History*, whose pages reflect the broad-ranging activities of its publisher, the American Museum of Natural history in New York. Its articles cover anthropology, archaeology, astronomy, botany, geology, oceanography, and zoology; many are first-hand reports of field or laboratory research. They are authoritative in tone, but easily readable, and are often accompanied by superb color photography.

Another institutional magazine, *Smithsonian*, differs from *Natural History* in two important ways. Its scope includes the fine arts and the performing arts as well as the sciences; and most of its articles are written by journalists rather than professional scientists and historians. Like *Natural History*, it is profusely illustrated. As it requires no particular background in science, *Smithsonian* is a good choice for the reader who feels that he has little scientific aptitude.

Science 84 is published by the American Association for the Advancement of Science "to bridge the gap between science and citizen." The magazine's emphasis is on the ways in which science and technology affect people, rather than on the intellectual and aesthetic aspects of pure science. Like many other science magazines, *Science 84* combines feature articles (seven or eight in each issue) with columns of news reportage, commentary, and review. In appearance *Science 84* resembles *Natural History*, and it seems to be edited for the same readership. While its

photography is not as exciting, *Science 84*'s coverage is broader, including mathematics, physics, psychology, and other areas *Natural History* doesn't cover. Like *Smithsonian*, most of *Science 84* is written by professional journalists rather than working scientists.

Technology Illustrated is published by the same Boston firm that produces *High Technology*, and stands midway between that magazine and *Popular Mechanics* in its appeal. Unlike most of the magazines we're examining, *Technology Illustrated* focuses exclusively on applied rather than pure science. Its subject matter is technology past, present, and future, serious and frivolous — technical people and institutions as well as machines and processes. Its feature articles are written by leading science journalists, and are accompanied by many color photos, drawings, and diagrams. It's the best magazine I know for learning about the operation of everyday machines and systems; if you like *The Way Things Work*, you'll love *Technology Illustrated*.

In an article on science magazines I really should mention such titles as *Discover*, *Omni*, and *Science Digest*; but I can't find much to say for them. It's not that they're particularly bad. But compared to their competition, they don't really have much to offer.

Discover calls itself both "American's Leading Science Magazine" and "The Newsmagazine of Science." It isn't either, but those two claims give some idea of the hype that pervades the magazine. It's published by the folks who bring you *Time* and *People*, and it's written and laid out in much the same style. But it is, in a word, superficial.

Omni is another magazine that suffers from too much self-promotion. As you probably know, *Omni* is a hybrid, combining science fact, science speculation, and science fiction. It's a sensational publication, in two senses of the word: a visually-oriented magazine, whose photos and graphics are often stunning, that can't let its writing speak for itself. Two examples: Ben Bova's sober article on political and military aspects of the "Soviet Space Offensive" (as the article is titled) is hyped on the cover as "Building the Soviet Death Star"; and "Getting High at Harvard" turns out to be an informative portrait of a Harvard botanist who studies hallucinogenic and medicinal plants from South America. *Omni*'s articles are generally well-written and well-informed, and the rest of the magazine offers stimulating reading; but the circus atmosphere of the magazine puts me on my guard, and makes me wonder how much to believe.

Science Digest suffers from the same credibility problem, without the advantage of top-name writers or visual excellence. Add to the unappealing layout an accompaniment of sleazy advertising copy, and you're left with an unattractive package. *Science Digest* isn't a bad magazine; but there are so many science magazines that are so much better in scope, selection, and presentation that there's no real reason to spend time reading it.

That's a look at the leading general science magazines available to English-speaking readers. But don't think that your access to news about science and technology is limited to them. Good science writing is everywhere. There are excellent articles in *National Geographic* and *The New Yorker*, not to mention the science-fiction magazines. Such publications as *Astronomy*, *National Wildlife*, *Psychology Today*, and *Sea Frontiers* offer specialized coverage of individual areas of science at a layman's level. The *Bulletin of the Atomic Scientists* examines policy questions arising from contemporary science and technology, as does *Science for the People* from a radical left-wing perspective. And there's a steady stream of good books presenting science and technology intelligibly to the non-specialized reader.

So if you want to stay aware of new discoveries, activities, and trends in science or technology — or if you're an aspiring science-fiction writer on the lookout for ideas and inspiration — do a bit of window-shopping at the newsstand or the library. A couple of hours a week with a good science magazine will keep you in touch with the forces and the people shaping our future.

SCIENCE MAGAZINES FOR SF READERS

Addresses given are subscription addresses, which may differ from editorial addresses. Prices are for personal subscriptions; institutional subscriptions may be higher.

American Scientist. Sigma Xi, The Scientific Research Society, 345 Whitney Avenue, New Haven CT 06511. (\$24/year).

Discover. Time Inc., 541 North Fairbanks Court, Chicago IL 60611. (\$19.95/year).

High Technology. Technology Publishing Company, 38 Commercial Wharf, Boston MA 02110. (\$21/12 issues).

Natural History. Natural History Membership Services, PO Box 4300, Bergenfield NJ 07621. (\$15/year).

Nature. Nature Subscription Department, PO Box 1018, Manasquan NJ 08736. (\$99.25/year).

New Scientist. IPC Magazines, Ltd., Commonwealth House, 1-19 New Oxford Street, London WC1A 1NG, England. (\$95/year).

Omni. Omni Publications International Ltd, 909 Third Avenue, New York NY 10022. (\$24/year).

Science. American Association for the Advancement of Science, 1515 Massachusetts Avenue NW, Washington DC 20005. (\$48/year).

Science Digest. Hearst Corporation, PO Box 10076, Des Moines IA 50350. (\$13.97/year).

Science 84. American Association for the Advancement of Science, PO Box 10790, Des Moines IA 50340. (\$15/year).

Science News. Science Service Inc, 231 West Center Street, Marion OH 43302. (\$27.50/year).

The Sciences. New York Academy of Sciences, PO Box 356, Martinsville NJ 08836. (\$17.50/10 issues).

Scientific American. Scientific American Inc, 415 Madison Avenue, New York NY 10017. (\$21/year).

Smithsonian. Smithsonian Associates, PO Box 2955, Boulder CO 80322. (\$17/year.)

Technology Illustrated. Technology Publishing Company, PO Box 2806, Boulder CO 80322. (\$18/12 issues).

Technology Review. Alumni Association of MIT, Room 10-140, M.I.T., Cambridge MA 02139. (\$18/year).



HELLO

welcome to our world
so clean and shiny
all around you
you'll see other relics
brought from yours
enclosed here is
an oozy slimy thing
we don't know what
it slithered on the sidewalk
after a spring rain

it doesn't rain here
either turn the
knob for better viewing
when you've dried out
we may let you
out this is recorded
in the speech we find
inside your head the
images are yours
we haven't any

— Ellin Carter

Hello 57

VEILS OF THE BODY

by Christopher Gilbert

art: Artifact

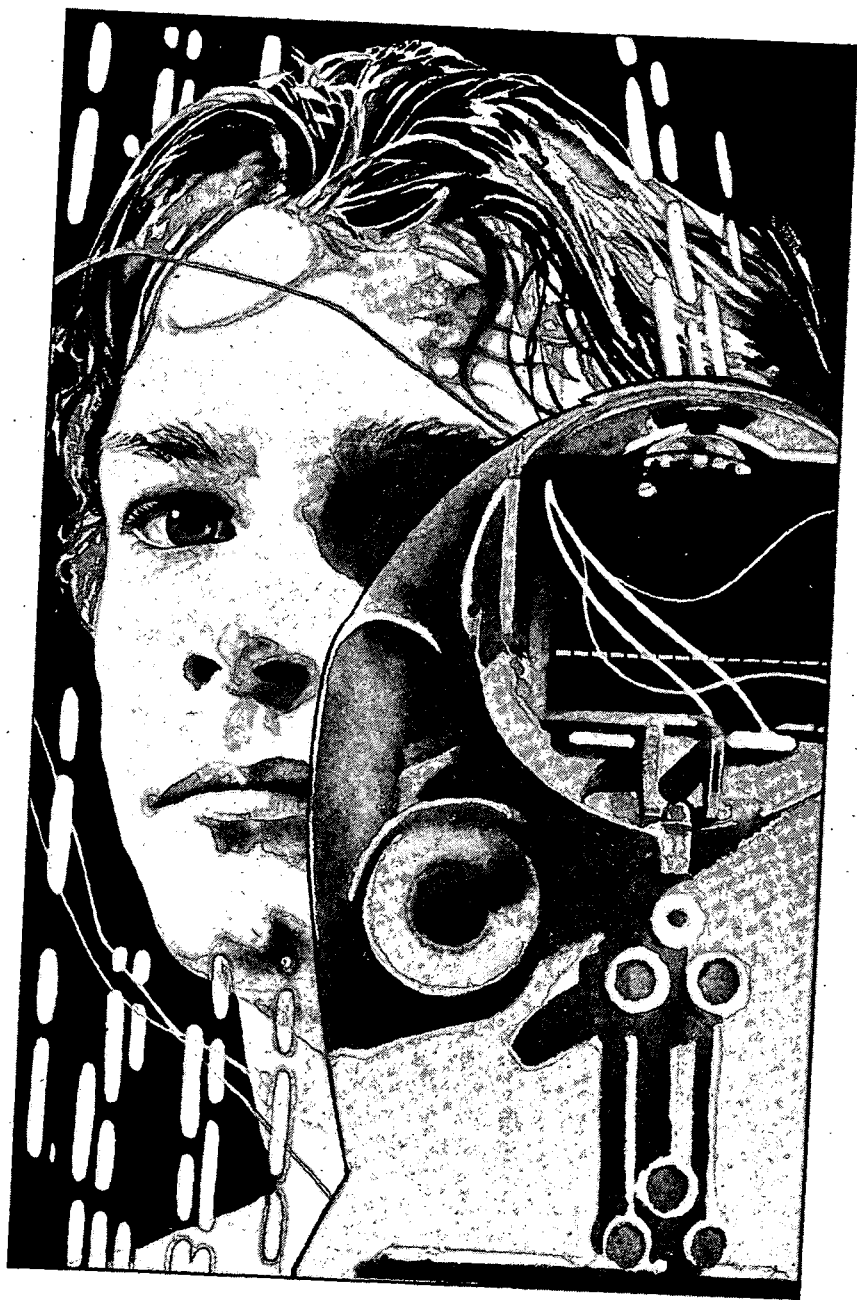
Christopher Gilbert writes: "I'm 39, have lived in Colorado, Michigan, Kansas, Washington, and California, and am now in New Jersey with wife and child. Former occupations include VD epidemiologist and college teacher. I have a doctorate in psychology and now make my living helping people overcome psychosomatic disorders. 'Veils of the Body' reflects my preoccupation with the first of two persistent mysteries: how does consciousness interact with the body? Is the human form something like a long-term, reproducing spacesuit? If so, who's inside? (The second mystery is: Why is there a market for toaster covers? But that's another story.)"

This story is his first fiction sale. If he ever writes the second one, about toaster covers, well . . . it doesn't sound very scientific, does it?

Controlling his own physiology was only the second thing in his short life that Terry had ever excelled in (the first was backgammon, but he'd given that up after his father had mocked it). He was fifteen, with a great capacity for single-mindedness and an odd ambition which led him night after night, for months, into his father's lab behind the house. As he lay in a recliner, his body studded with electrodes and sensors, the array of medical amplifiers, video-feedback displays, and loudspeakers transformed his obscure internal commerce into dramatically discernible events. His muscle contractions sent light rippling across rows of LEDs; minute shifts in finger temperature sent electronic audio-feedback wailing. Using this information, he'd learned relentlessly to influence the automatic processes of his body.

But only to a point. Now he'd reached a plateau, and he was frustrated. His father came home after eleven one night to find Terry sitting straight up, wired to the skin temperature and blood pressure monitors but drinking a soda. Chet, a husky ex-football player, punched his son's shoulder. "How's progress, champ?" he asked.

Terry stretched forward, snapped the instrument panel off, and flopped back into the chair. "Same place as I was last week, Pop," he said. "I can't get my heart rate below 40 no matter what I do. And diastolic pressure won't go below 65. Remember on those country drives, when I was little, how you used to let me sit on your lap and steer the car? You



had your hands on the wheel all the time, didn't you?"

Chet nodded. "Sure, you didn't have much road sense at six. So?"

"Well, it's the same thing here. I feel like my body's humoring me, and I can't get beyond a certain point no matter how hard I try. I must be up against my body's natural limits."

Chet frowned. "You're stalled, huh? You're good, but some yogis can go farther, you know."

"I know," Terry said with a sigh. "I'll keep trying. But I've been at this so much that tonight I started seeing double!" He began removing the blood pressure cuff and said idly, "You ought to hook up double vision for feedback somehow. Invent something new."

Chet looked closely at him, repeated "— double vision —" a couple of times, then said, "Hold it. Got an idea," and closed his eyes. His fingers began moving, tracing connections, outlining the circuitry, and he nodded and smiled. After a minute he began firing questions about visual-motor coordination, eye-focusing mechanisms, and matters which Terry's physiology teacher had barely covered. Finally Chet said, "Never mind, I'll find out. Just details. Look, I think we've got a brand new biofeedback principle, kid. Give me a few days to put it together. Then you just might get past your blocks. Let's turn in now." Terry was intrigued, but his father wouldn't say any more.

Terry gladly took a break for the next few days to catch up with his school work. He'd secluded himself so much in the lab lately that everything else seemed secondary. Two weeks ago Chet had finally given his son a rare, grudging compliment: "You're pretty hopeless at sports, but you're an autonomic athlete, kid. Finally found something you're good at! Maybe I'll have you demonstrate at the convention." For various reasons that possibility was now the biggest thing in Terry's life.

His mother worked evenings as a nurse, so she was unaware of his activities. Nobody at school knew what he was doing; he daydreamed sometimes of a school talent show in which he would display how easily he could make his heart race, or make his hands warmer or colder. But he knew that his classmates wouldn't really appreciate it. He was lonely, awkward, out of place in an athletically-dominated high school. He was hungry to excel at something, and biofeedback seemed to be his special talent.

That Sunday, Chet finally handed his son a pair of black rubber goggles with tiny motors attached to each temple. "You'll probably be the first person in history to try this principle," Chet said, quite serious. "We'll call it the Clarifier. I just hope the damn thing works."

Terry turned the device over and over. There was a movable prism mounted over each eyehole, and wires ran to a large junction box packed with knobs, switches, and jacks. "I don't get it," he said.

"But it was your idea! OK, listen. Normally, whenever your vision starts to go double your eye muscles automatically adjust. What if, instead, you had to relax the muscles of your *back* to stop seeing double? Or lower your heart rate to get clear focus? I've substituted a step in the visual focusing process, so that visual clarity depends on whatever physical adjustment we choose: muscles, circulation, EEG, whatever."

Terry frowned, still confused but pleased that his father would even try to explain to him. "What do I have to do?" he asked.

"Not much. Just sit down. Let's try blood pressure." Soon Terry was settled in the recliner with the automatic cuff on his arm, inflating and deflating every fifteen seconds, with the video screen showing his systolic and diastolic pressures. Chet adjusted the Clarifier on Terry's head.

"Now, you'll see double at first, but only up and down, not sideways, so you can't compensate for it. If you want to see clearly you'll have to change the prisms, and they're controlled by your blood pressure now. Sit back." Terry heard a few clicks, and suddenly his visual field split into two vertically displaced images. He instinctively struggled to focus, but his eye muscles could not correct it. He squinted and blinked.

"Don't close your eyes!" Chet said quickly. Terry felt anxiety building as the visual error signal kept screaming from eye to brain and back again; he felt his eye muscles squeezing, trying to merge the two images.

A minute later his diastolic pressure was around 75, not much lower at all. Then Terry looked around the room and felt a new wave of vertigo. He tried to calm his racing heart and failed; the visual mismatch seemed to stimulate deep neurological distress. Alarmed, he began to picture his heart contracting more gently and his arteries dilating, the way he'd lowered his pressure so many times before.

"Keep 'em open, Terry! It's working — " A moment later the pressure started to drop, and his two images began to merge. He heard the tiny buzz of the temple motors, like obedient mosquitoes. At 60 diastolic, Chet turned the shaping knob, and the images gaped apart again. Terry's visual system struggled for fusion, pushing now through the cardiovascular system. The hunger for clarity dominated; Terry felt an internal shift throughout his body and a feeling of surrender. The screen now read 45.

Weak and dizzy, he closed his eyes then and took a deep breath. "Let's stop, Dad," he said.

"Sure. You know, you've already broken your record, first time out! The damn thing works!" Chet removed the Clarifier while Terry, still faint and shaken, tensed all his muscles and watched his blood pressure rise slowly back up to normal.

He said slowly, "That was really weird. I had to think of my blood pressure to start it, but when it started to drop it felt like a power assist."

"Right, that's what I thought! Do you see now? Everybody's been using the usual lights and sounds for biofeedback signals. Nice ego

rewards, maybe, but your brain doesn't really need those lights and sounds. However, it sure as Hell craves clear vision! So we ask it to do a little extra for that clear vision, and bingo, top priority. Think of it: any body change we want! Just insert it into the loop!" Terry was grinning too; he had seldom seen his father this enthusiastic. "Look, Terry, I've just got to have this ready for the convention. The market's ripe for it. Are you going to be my test pilot?"

Terry nodded. Of course he would . . . but deep down he didn't like it.

Driven mostly by his father's enthusiasm, Terry resumed his nightly practice. Chet pinned up large charts and graphs on the lab walls to track Terry's progress on each physiological variable. Terry learned quickly to adjust the Clarifier's gain settings, to set the prisms, and to tolerate the unnatural split vision while he directed his attention to the desired change. The work went fast; once his brain caught the connection, his body yielded in a matter of minutes. During the first week, he surpassed his previous records in everything he tried. The physiological barriers he thought were solid gave way apparently without protest. His heart rate reached 16 before he got nervous; he could make one hand 70° and the other 97° and reverse them in three minutes. Soon Terry learned to modify his brain wave spectrum at will and to control his intestinal movements. He even used a telemetry pH device on a string to sense his stomach acid. The bizarre double vision never lost its power.

Each night, Chet asked briskly, "How's progress?" and listened, then said, "Keep it up!" He kept busy borrowing and building equipment, sometimes working in the lab as Terry practiced.

"You're making history, I'll bet!" Chet told him finally. "I've doubled our display space for the convention. I'm expecting crowds. Have to figure out how to market this thing."

Chet began bringing doctors from the university medical school to observe Terry at work. They asked questions, watched for a few minutes, and quickly became impressed. No one was allowed to know how the Clarifier worked. "It'll be described at the biofeedback convention," Chet kept saying. Terry heard him discussing medical applications, and also commercial development and investment; and he cringed. It seemed too early for all that.

In truth, Chet's business was very small-time. The major biofeedback manufacturers got their volume by taking out full-page ads in the professional journals, hiring salesmen, and putting on seminars. Chet was known for quality instruments but was not known by many. This was his big chance. So Terry observed his father's excitement and stifled his doubts.

Only one of the doctors expressed concern about Terry himself; a sharp-faced psychiatrist named Dr. Singh peered closely at him and said,

"You'd better be careful, boy. Your body is not a plaything." Terry nodded respectfully. He felt fine. He was becoming uneasy, however, because the Clarifier was doing the work and getting the credit. Using the device felt harsh, as if he were cheating somehow, and he began to brood about this.

Two weeks before the convention, at dinner, Chet finally said to his wife, "You know, this convention is going to be a big event! I've got something new. I'm getting brochures printed, and Terry's going to be demonstrating. How about you coming along?"

Barbara raised her eyebrows wearily and replied, "That's not quite my idea of a fun time, thanks." She was tolerant of her husband's work but she disliked the idea of biofeedback. She had her own life, her own circle at the hospital. Chet had tried to tell her before what Terry was accomplishing, and had gotten only negative reactions. But this time as he talked she gave a long look at Terry, and later drew Chet aside.

"Look, I know this is your big brainstorm and all, and that's fine, but right now I'm worried about our son! He's not acting right."

"Oh, he's probably tired. He's a perfectionist with this, you know."

"But Chet! He's so distracted! He's walking around like he's listening to a conversation in another room! I didn't realize how much time he's been spending with this biofeedback."

Chet gave a deep, complex sigh. "Maybe . . . look, he's always been a private kid. He gets wrapped up in what he does. We're trying out this new principle in a lot of different ways, so at the convention —"

"Pardon me, but screw your convention! Who knows what Terry's throwing off balance inside himself! You know he'd shave his head if he thought it'd please you. And you're taking advantage of him!"

That created a freeze which precluded further talk for a while. Later that evening Barbara sat beside Terry on the couch and touched his knee. "Dear, do you feel all right lately? You're looking awful beat."

He stopped concentrating on his heart sensations. "Mom, I'm doing just amazing things with biofeedback now! Dad invented something. I wish you'd come and watch. I can control my body probably better than anyone."

"But why? Do you know what you're doing fooling around with your insides? It's against Nature."

He smiled a bit. "But yogis do it all the time, Mom. And yogis are very organic."

"I don't know any yogis. I just know I have no wish to control my insides. That's why we have doctors. You're so wrapped up in yourself lately, dear, it worries me."

Terry put her off with some reassurances, but later started to wonder. His bodily preoccupations had crept up on him to the point that he

thought about little else now. That night he tried to catch up with his social studies and algebra; but he kept 'listening' inside and, from time to time, made minor adjustments to his body. He found it hard to concentrate on much else. Finally he pushed his books aside and faced what was really bothering him — he resented the help of the Clarifier. He wanted to do it all himself.

Terry didn't intend to skip school the next day. He simply stopped off in the park for a while to try something. While women pushed baby carriages past him and squirrels chattered, he discovered that morning how to imagine the double vision along with the intended change. He wasn't sure whether it was conditioning or some sort of threat process, but it worked; in two hours he'd achieved the same circulatory control which he'd gained with the Clarifier. Toward midday he switched to heart rate and found he could raise it to 150 and lower it to 30.

This was the breakthrough he needed. But three hours passed quickly; when his muscles finally felt chilled and cramped, he shook himself out of the self-absorption. He went home stiff but happy, eager to tell his father. Barbara found him later on the living room couch, staring at the floor and clutching a pillow on his lap. She had to shake him.

"Terry! Didn't you hear me? What's wrong? What are you doing home?" He jumped and focused on her, with effort. He'd been trying to increase the circulation in his foot, which he'd twisted on the front steps. Barbara stared at him.

"Terry, I heard at the hospital that they're arranging some kind of blood testing for you. They assumed I knew about it. I was extremely embarrassed that I didn't."

"Oh — I guess Pop didn't tell you. We're going to try sampling my blood chemistry. I need feedback, I can't sense them well yet. Maybe just blood sugar, a couple of simple things, though I wish I could do adrenalin."

Barbara became agitated, in her cool way. "I don't believe this!" she said. "That's what I was afraid of —"

"Hey, it's all right," Terry started, and then stopped to slow his heart as he became defensive.

"Oh, really? What if you learn to raise your stomach acid? Will you also increase your mucus secretion to protect your stomach lining? And if you could change your blood glucose would you remember to boost your insulin too? Dear, you're tampering with a very finely-balanced mechanism."

She went on, but Terry had trouble following her. Although he knew she was right, she was upsetting him and he had to keep adjusting certain things: his digestion kept stopping. His heart beat got uneven. He felt his back muscles tensing. Taking care of these matters occupied his atten-

tion, and he noticed it was getting easier to sense his internal changes, as if successive veils were being removed.

Barbara finally went to work. When Chet came home, carrying an electrocardiograph unit, Terry told him eagerly, "Pop, I'm at a new stage! I'm learning to get the same control without the Clarifier now."

Chet paused, looked away, and said, "No kidding! I've got this ECG mated to the computer, so you can select any heart cycle you want. The blood lab will be ready for you in two days. Come on, kid, don't make me obsolete yet."

His father's coolness disappointed Terry, but he could understand it. He said, "OK, I'll come in later."

After dinner Terry heard from the next room bits of a telephone conversation between his parents. Barbara was apparently furious about the blood monitoring. When Terry finally entered the lab, Chet spoke with him for a few minutes about technical matters, and then shifted uneasily in his chair. "Terry," he started, "Barbara's worried that you're walking around thinking about your liver all the time. She says you're in a fog. Maybe you're working too hard on this lately. What do you think?"

Terry had been studying his digestion as Chet spoke. He pulled his attention out. "A fog? If you were learning to open your pyloric valve at will, you might be in a fog too. I'm OK. . . ." He hesitated. "There. I think I can sense my blood sugar release now. Feels kind of warm and buzzy."

Chet frowned. "I hope you're being careful."

Terry smiled and dropped into the recliner with a trace of a swagger, feeling like a basketball star just coming out onto court. He felt so natural here now, sitting before the display screens and instruments. While Chet attached the ECG electrodes, Terry calmed his heart and began to adjust the Clarifier's settings. He didn't tell his father that he planned to go beyond the Clarifier tonight.

The plan was to modify the S-T segment of his heart cycle. He made his breathing smooth and shallow to minimize disturbance, and began studying his subtle atrial contractions, the forceful ventricular squeezing, the surges of pressure in his aorta spreading like shock waves into the arterial system. Chet stayed to watch. Terry watched the scope through his double vision, trying to specify what change he wanted. He concentrated as never before; for many minutes he strained inward for the faint sensations of his heart. Time seemed suspended.

And then, in a moment he would never forget, he broke through. The veil began to rip. His heart quivered as he made full conscious contact with it, and he felt the entire heart cycle clearly. Strong new sensations began bombarding him; and like spreading fire his awareness ran down the aorta to other blood vessels, to his kidneys and lungs. He *felt* them working. A moment later he perceived, more remotely, his digestion; he

sensed the snake-like gut slowly rippling in the warm liquid darkness.

For a few minutes the outside world did not exist for Terry. The myriad sensations from within commanded all of his attention. He felt the hasty flurry of glycogen from his liver to fuel his cells; he could control things like that now. His visceral feedback was so sharp and distinct that the Clarifier now seemed terribly crude.

Chet wandered off into the kitchen, unaware of what had happened. For a long time Terry plunged deeply into the minute physiological decisions of when to increase insulin, how to regulate adrenalin and thyroxin; each had a distinct feel, a mental flavor. Routine information was now being channeled direct to him. He remained motionless, turned totally inward, fascinated and awed by the vast complex processes within him. He knew he had the potential to control it all.

Eventually, exhausted, he got from the recliner to his bed. It was not easy; walking was now an avalanche of sensations which required decisions about balance, movement, and muscle tension. He collapsed in his bed; sleep finally drew his mind away from his new domain.

The next morning Terry drifted awake and after a moment remembered the previous night and thought of his heart. Immediately, sensations flooded him, forcing him to start controlling things as if he'd been thrust into the driver's seat of a moving car. He was smart enough to sense danger then. He made his way to the hall and called out weakly, "Mom! Pop! I need help. . . ."

With Terry back in bed, Barbara checked her son's vital signs. Chet stood by, stunned, feeling Barbara's steady wrath in each of her words, each look. Terry mumbled "I did it, Pop. I can feel everything. It's too much." They could not get him to say much else. Barbara wanted to take him to a hospital, although she could find nothing physically amiss; Chet resisted. There could be scandal. So they settled on first consulting the psychiatrist Dr. Singh, who had visited the Tuesday before. Barbara knew him slightly. "At least," Chet said, "he's from Bombay. Should have a natural knowledge of these things."

Dr. Singh arrived within an hour. He was short and slim, wore a navy three-piece suit, and spoke with a strong English accent. He tried to rouse Terry and got only a few nods and grunts. Terry said once, "I keep forgetting about my liver —" and went off again, arms clamped against his sides.

Tilting his thin head, Dr. Singh listened to Chet's account, then Barbara's observations, and insisted on hearing full details of the Clarifier. Barbara said finally, "Shouldn't he be in the hospital, Doctor?"

"In this case perhaps not. We'll see. It is not a medical issue. What pill could we give for this? He should have studied yoga, the young man. No good to fool around with innards."

Chet burst out, "What's *wrong* with him?"

"I'm not certain. Not all Indians are wise in these matters. But I believe that your sensory extortion device obtained for him the control he desired. Now he has also the responsibility."

"Hey, I don't see it as extortion — " Chet objected.

"But the boy's brain perhaps does. Suppose the president of a corporation one day visits the factory and starts fooling around where he doesn't belong, tries to show the assembly-line workers how to do their jobs. What would happen?"

Chet ventured, "The workers would resent it?"

"Yes, yes! They get lazy, say 'OK, Mr. President, you run the factory!' — and they'd sit back. Internal mutiny. One of many possibilities. Your son cannot tell us."

Chet slumped miserably. "I feel terrible. My own son. I did this. What if he's damaged? I never should have built that thing."

Dr. Singh held his hand up. "Any device can be misused. The idea is brilliant and we can speak later about developing it. But now — " He waved them back and stooped to speak to Terry, very softly. "Young man, you hear me? You know the manual override concept? You have disabled your automatic mechanisms system by system. Now you seem to be stuck on manual. But you slept last night, correct?"

Terry nodded. "M-hm. I can't let go."

"But you did sleep! And you lived, understand? So you must disengage again." He spoke to Chet and Barbara: "It seems he is 'over-conscious,' and a therapeutic coma will allow the automatic aspects of his nervous system to re-establish themselves." Dr. Singh was accustomed to acting decisively, and he did so now, taking some ampules of amobarbital from his satchel. He began giving orders to Barbara, and she switched easily to her nurse role.

Suddenly understanding, Terry struggled to sit up and open his eyes. "No! I've got to stay awake! Dad, not this, don't let him . . ." His attention kept getting pulled back by body organs clamoring for his attention.

Chet knelt next to him and stroked his forehead. "I'm sorry, son. I didn't realize the danger of all this. He's the doctor. Maybe you should try to let go now."

Barbara meanwhile was holding Terry's arm; she murmured "Hold still, dear," and penetrated Terry's vein with the hypodermic.

Then Dr. Singh said gently, "Trust your body, boy. Just trust it."

Terry felt panic rushing through his system to meet the sedative. He made a desperate effort to prevail, but it felt like juggling too many balls at once. His consciousness shrank. Finally he had no choice left but to let go, hoping that his body would find its way without him.

Ten hours later, in the evening, Terry awoke groggy and saw his father dozing in the chair across the room. "Hi, Pop," he said weakly, through thick dry lips. "Got any water?" Chet jumped up and came over to him. Then Terry remembered. As if a volume knob were being turned up, he was bombarded by full-strength sensations from his heart, intestines, blood vessels — all systems reported simultaneously, threatening to go out of balance. He had to attend to them all.

He closed his eyes, began adjusting, and managed only to say, "No good, same as before, it's all waiting for me."

"Oh, Jesus," Chet muttered, and rushed to summon Barbara. They could only elicit grunts and nods from Terry, locked in concentration. Barbara sighed. "Doctor's orders, dear," she said. "Take a rest," and delivered another injection before Terry realized what was happening.

Eight hours later Terry awoke again, abruptly, shivering and startled. This time his mother sat watching over him.

She smiled with tentative triumph. "Now your body worked just fine without you, see? You've slept all this time and your heart and everything else kept going automatically."

Terry talked fast to divert his attention from what he knew was coming. "That's only when I'm asleep, Mom! I can't keep doing this! I need my reflexes back!" He looked desperate, then broke off and began reciting multiplication tables.

Barbara touched her face and began crying, her composure cracking. "Oh baby, please stop that. I just want you to be normal again so much. . . . Damn that biofeedback!"

Terry felt her massaging his head. Inner sensations overpowered him again: he had to tend to a restriction in abdominal circulation, his breathing was too slow, blood sugar was down, and heart was irregular again. He feared now above all a deeper plunge into basic mechanisms, not only having to change his heart rate but having to initiate each beat. Even as he dwelt on that fear, he felt himself slipping farther into the details.

Barbara prepared the hypodermic again. "Dr. Singh says to keep you under," she said, and gripped his arm. "I'm sorry."

"But it's not working, Mom," Terry said, pleading.

"I know. Maybe this time." Having no other solution, she was in his vein again; and Terry succumbed once more to the sedative, withdrawing in fear from his clamorous body.

He awoke slowly from the third coma and felt suspended for a few seconds, brushing cobwebs from his senses. He felt his pounding heart, but normally, as if his body didn't realize he had arrived. Immediately he looked around the room, searching for an external focus of attention.

His mother was there, looking haggard, peering into his face. She said,

"Are you hungry, dear?" That did it. Her question drew his attention to stomach sensations; hunger and nausea bubbled up like marsh gas from a pond bottom, horribly magnified again. Everything else returned. He scrambled to start regulating things. Barbara ran into the hall to call Chet.

And then, with a fierce effort, Terry jerked out of bed. His muscles were still weak but he struggled to dress himself. He was sick of following other people's plans; he had his own now.

His mother returned as he was opening the back door. "I've got to do this," he said. "Only chance." He gritted his teeth and began muttering his times tables and ran outside.

Chet shouted "Wait!" and started after him.

Terry raced through the back yard, over the fence, past the neighbor's door, and into the field. It was cold out and he deliberately hadn't worn a jacket.

He began gasping huge gulps of air, chilling his throat. He felt an urgent need for more circulation in his thigh muscles and lungs, but he deliberately ignored it and kept to the multiplication, shouting now: "Eighteen times fourteen is two-fifty-two!" Cramps appeared in his legs. He thought, *too bad*.

He ran on recklessly across the stubbly field, as if trying to leave his body behind, and concentrated on the terrain and his mental device. He ran up onto a half-finished foundation of a building, along the cinder block wall about eight feet up, and then slowed and teetered on the edge. His arms whirled; he felt the abrupt pulls and reflex twitches on his muscles trying to balance.

Then he lost it. Heedless of danger, he fell onto a sandpile, collapsed to his knees, then stood and continued running. *Don't stop. Don't reflect.* The fall had been too fast to control, and his reflexes had taken over.

He headed toward a nearby pond which was choked around the edges with garbage and black grass. He splashed into it, pulling his sneakers out of the mud with each wild step, and when the water was knee deep he threw himself face down into it. He was now simply counting to himself. Shocked by the cold water, he held his breath and felt his heart leap in his chest like a panicky fish. Ignoring his lungs, he kept counting and then inhaled a bit of muddy water into his nose.

Instantly he coughed, saw red, felt the burning in his nostrils, and burst to his feet. Reflexes kept him coughing as he ran out of the shallow pond, trailing brown water, and headed toward a steep downslope. He could still feel the clamor of his other sensations in the background of his counting.

Down the rocky slope Terry flew, not caring for his safety, daring his body to take care of itself. Flooding his external senses, he veered away from trees, stumbled over boulders, slid down the steep rocky ravine. He fell twice, knees buckling, but still ran, resisting the frantic internal calls.

He began to feel detached, as if riding a mechanism designed to dodge obstacles, keep its balance, and protect its head. Near exhaustion now, he headed toward the lake below.

Into the frigid water he splashed; then a deep breath; and he was under the surface, squatting. His body cried out for air. All alarms were sounding, but he kept his head under. For a second he was vividly aware of himself as a pinpoint of free will huddled somewhere behind his eyes, with such immense power over this complex body. But now he had seen the price.

He waited, grim, incredibly firm. And then, *involuntarily*, his legs shot him upward through the surface. Still detached, Terry rode along with his body and experienced his lungs acting on their own to suck in the precious air. He felt blessed relief in his tissues, the pure pleasure of a body restoring itself.

He listened internally, cautiously, no longer counting. The veil was back. He felt systems gradually returning to normal, but he felt them dimly, properly muffled. With jubilation he flashed his attention back to the pine trees lining the lake. Then he stared at the clouds. Then the stones on the shore.

When Chet finally found him, Terry was smiling even though his teeth chattered from the beginnings of hypothermia.

"I gave it back, Pop," he said. "I'm never going back in there again."

Chet nodded, put his jacket around his son's trembling shoulders, and they started home.

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I certify that the statements made by me above are correct and complete:

Michael H. Cook, Publisher

A PROFIT WITHOUT HONOR

by Howard Browne

PERSONAL ACCOUNT

Most writers, editors and aficionados of science fiction and fantasy get involved in those categories by choice. Me — I sort of stumbled into them by accident.

Fantasy was always enjoyable reading for me as long as it dealt with humans in realistic settings. The problems of, say, a modern-day insurance investigator with the ghost of Jack the Ripper — that was *my* kind of fantasy. Or planking down, on Hollywood and Vine at high noon, a Cro-Magnon man wearing a loincloth and lugging a flint-tipped spear. . . .

It was science fiction I never really cared for. Certainly not the brand put out by Hugo Gernsback or T. O'Connor Sloane or Ray Palmer. Or John Campbell, for that matter. Zooming off to investigate life on the moons of Uranus might well be red meat to many readers; life in Earth's big-city streets was what held my interest. In short, Thuvia, Maid of Mars, couldn't hold a candle to Sadie Flegelmeier of the The Bronx.

Then how come, the man in the back row demands unpleasantly, you had the chutzpah to stick your nose into something you had no use for? (Harlan Ellison? Nah; couldn't be.) Well, it goes like this: . . .

Back in 1941 I was credit supervisor for a chain of furniture stores — “No Money Down, Three Full Years To Pay” — in the Chicago area. A job designed for any run-of-the-mill sadist. After five years of repossessing beds from under sick women, it seemed time to pick a different profession. Organized crime sounded promising, but I lacked the proper bloodlines. Okay, then how about becoming a successful fiction writer? Enjoy the good life, buy an A-frame chalet in Switzerland, make time with the pretty girls.

So, I took a crash course in touch typing, brushed up on grammar and punctuation, and wrote two short stories aimed at the pulp detective markets.

It was around this time that Ziff-Davis, then based in Chicago, added a detective magazine to its Fiction Group, which until then consisted only of *Amazing Stories* and *Fantastic Adventures*. I mailed the two stories to *Mammoth Detective*; a few days later I received a check for both (\$120 for 12,000 words, thus cancelling my plans for the Swiss chalet) along with a letter signed by one B.G. Davis, asking that I phone for an appointment. My initial reaction to the request was the uneasy feeling that I must have plagiarized the plot of a story I'd once read and was about to be nailed for it.

The call was made; the appointment set; and I showed up, on time, at the company offices, which occupied an entire floor of a shiny new

building on Chicago's swank North Michigan Avenue. If anything was ever designed to put a fledgling author in his place, those offices were it: plate glass entrance doors from ceiling to floor, an abundance of chrome, furniture by an exclusive designer, and the overall hushed ambience found only in the better class of cathedral. Every secretary was well under thirty and a beauty pageant finalist, while the receptionist had to have been a former Miss America.

B.G. Davis was seated behind a narrow, semi-circular desk at the far end of a huge corner office, its wall covered in tan leather. While not a large man, his bearing and wardrobe made him an impressive figure. He waved me to a chair upholstered in tan leather to match the walls and looked at me out of eyes that would miss anything smaller than an amoeba's necktie.

He was not one to waste words. "I happen to be an authority on detective fiction, Howard. I've read both your stories and enjoyed them very much indeed."

That was heady stuff to any writer, especially a new one; and I thanked him. Then he leaned back in his executive-sized swivel chair, put the tops of his fingers together and dropped the bomb. "Howard," he said, "I'd like for you to take over the editorship of *Mammoth Detective*."

"You're nuts," I said.

He didn't hear me, since I hadn't said it aloud. I took a slow breath and let it out and said, "Mr. Davis, before I came in here five minutes ago I'd never even *met* an editor. I don't have the faintest idea what an editor does or how he does it."

The confession didn't faze him. As I was to learn through the years, very little ever did. He said, "I can teach a high-school graduate the mechanics of editing a magazine in two weeks. What I can't do is teach him how to write. You write a good story; naturally I assume you know what makes someone else's work acceptable or unacceptable. That's why I'm offering you the job. You'll have full autonomy in selecting stories, illustrations and cover art, et cetera. As with any new magazine we publish, I select the contents of the first two issues, design the overall format, then turn everything over to whomever I hire as editor. As long as the circulation holds up, I keep out of the editor's way."

He didn't add what would happen if the circulation *didn't* hold up and I wasn't about to ask him. "Sounds fine," I said neutrally.

He wasn't looking for neutral reactions. Abruptly he said, "May I ask what your present salary is?"

I told him, adding twenty-five a week to the figure. He looked at me almost pityingly. "We can do much better than that," he said, then named a figure to prove it.

"When," I said, "do I start?"

He picked up the phone, said, "Would you ask Mr. Palmer to come

in?" hung up, said, "I assume you'll want to give your former employer two weeks notice?"

I nodded. He said, "Fine. However, your salary here starts as of this coming Monday."

Before I could recover from *that*, the office door opened and Ray Palmer came in. Davis introduced us, went over the salient points of our conversation, then added: "Since *Mammoth Detective* is still a quarterly, you'll be free to give Ray a hand with *Amazing* and *Fantastic*."

Like it or not, I was now into science fiction.

On my way out, Palmer gave me a manual on proofreading symbols to bone up during the two weeks before my new career began. And it seemed we'd be sharing the same office with facing desks and the same secretary — an absolutely stunning girl named Elaine. I was to spend a lot of time planning ways to get rid of her husband. . . .

Back out on Michigan Avenue, I paused to light a cigarette. I looked up at the sky. It was still up there, but now it seemed bluer than before.

"Good God," I said aloud. "I'm an editor."

THE EDITORS

The Ziff-Davis Fiction Group was actually only a small, but quite profitable division of the company. The prestige came from such slick-paper giants as *Popular Photography*, *Flying*, *Radio & TV News*, *Modern Bride*, etc. Their editorial staffs exhibited a kindly but amused tolerance for us and the gaggle of ragged-edged, garish-covered magazines we somehow managed to get on the stands. They wore Brooks Brothers suits and Sulka ties and tucked away three-martini lunches at the Tip Top Inn; our wardrobes came from Goldblatt's and we dined on hamburgers and Cokes at a nearby beanery. But would we have traded places with them?

Yes.

In the late 1930s Z-D had acquired the magazine *Radio News* from a rival publisher. Along with it they picked up *Amazing Stories*. The first impulse was to suspend the title; instead Davis opted to put out an issue or two in hopes of coming up with a profitable addition to the company's publications. An editor was needed, inquiries were made, and Ray Palmer, a Milwaukee SF buff, was hired on a free-lance basis to put out those two issues. Together, Davis and he designed a new format, selected new stories and illustrations, then dropped the finished product on the newsstands.

It was an instant hit.

Palmer's status was changed from free-lance to full-time editorship. The magazine continued to prosper, and a year or so later *Fantastic Adventures* became the second member of the company's burgeoning Fiction Group.

For the types of magazines he put out, Palmer was the ideal choice. His

approach to their contents called for solid and unrelenting action. A raygun was a raygun, a space warp was a space warp, and no scientific details need apply. Alien invaders from west of Sirius were beaten back by armadas of Earth's spaceships commanded by steel-thewed heroes; bug-eyed monsters pursued lovely Earth maidens. What they intended to do with them was never made clear. The appeal was almost entirely visceral — directed squarely at the unsophisticated reader who wanted his action fast and bloody and uncluttered with pseudo-scientific exposition.

In short, Palmer, aided and abetted by Davis, set out to garner a basically young audience just getting into SF. It was expected that many such readers would in time "graduate" to the more adult level of, say, *Astounding Stories*, with new readers moving in to take their place. Steadily mounting circulation figures tended to prove the theory was right.

My long association with Palmer had its stormy moments, especially when it came to the SF and fantasy stories he bought. I maintained that even a story emphasizing action should be literate and be peopled by something other than cardboard characters; his retort was that I was an insufferable highbrow and should be editing the *Saturday Review of Literature*. I confused him by expressing my thanks for the compliment. It was a debate that raged through our years together, one that was never resolved.

At a very early age, Palmer tangled with a Milwaukee street car and suffered a broken back. Since seemingly no real effort was made to repair the damage, his spine became twisted into a humpbacked condition, leaving him at maturity well under five feet in height. This made meeting the man for the first time a jarring experience, but anyone spending any time at all with him soon became unaware of his deformity. At thirty-eight, Ray married a lovely young woman and fathered two beautiful girls and a son.

Most of the stories and articles in *Amazing* and *Fantastic Adventures* were supplied by a stable of Chicago-based writers assembled by Palmer over the years. Each Friday they were expected to come to the office to pick up their checks and express their appreciation. It was Palmer's way, perhaps subconsciously, of proving that — physically handicapped or not — he was the Big Man, the guy in charge. Cross him in any way, deny him the proper homage, and your income stopped, sometimes briefly, sometimes for good. Another writer moved in, leaving you to peddle your stuff elsewhere or to go back to selling shoes.

How is it possible to like — let alone admire — anyone capable of an attitude like that? The answer: Ray's virtues far outweighed his flaws. He was gracious, caring, generous to a fault, a staunch friend and one who gave freely of his time in helping a lot of beginning writers learn their

craft. Ray was well into his sixties when he died. Many mourned his passing, few more than I.

In 1949 Palmer resigned from Ziff-Davis to go into magazine publishing on his own. A year or so earlier I had left the company, moving to the West Coast to continue turning out a series of detective novels for Bobbs-Merrill. With Palmer gone, Davis asked me to drop the book-writing nonsense and return to Chicago as editor of the Fiction Group.

The editorial staff I inherited was made up of Bill Hamling, a capable and imaginative associate, plus being a fair-to-middling writer; and Lila Shaffer, who later, in collaboration with her husband, wrote several highly successful non-fiction books.

But a staff, however talented, was not enough. I had also inherited a heavily overstocked inventory of second-rate stories and articles including nearly \$20,000 tied up in the infamous "Shaver Mystery" — about which more later. Also, circulation figures for both *Amazing Stories* and *Fantastic Adventures* were nose-diving. One bright spot: thanks to Shaffer and Hamling, the detective magazines (two of them now) and *Mammoth Western* were holding firmly.

It seemed the right time to bring the axe out of the mothballs. Over the vehement objections of the company treasurer \$30,000 was lopped off the SF inventory. The Chicago stable of writers mentioned earlier was called in and flatly told there would be no more "sight unseen" buying of material. The talented Bill McGivern, exiled by Palmer a year or so earlier and sorely missed, came in out of the cold.

With the home front stabilized, I went to New York, told agents there that we were now wide open for submissions from their clients, conferred with writers and — most important of all — raised our word rates. Soon the by-lines of top writers in the fantasy and SF fields began showing up on our contents pages . . . and circulation figures took a pronounced upward turn.

By late 1951 it was becoming increasingly evident that the ragged-edge pulp-paper magazine was on the way out. In an attempt to get the jump on the competition we tried an experiment. We put together a whole new magazine, digest-sized (5½" × 7½"), with a smoother grade of paper and trimmed edges. The covers were catchy but not lurid: color tint was added to the interior art. We called it simply *Fantastic*. (*Fantastic Adventures* continued for some months and was then merged into it.)

These changes, along with stories by the best authors I could bribe and coax into writing for an ex-pulp publication, resulted in one Hell of a class product — the finest SF and fantasy magazine to reach the stands before or since. The fanzine editors, who for years had been our severest critics and somewhat less than fond of the job I'd been doing, jumped on the bandwagon; and congratulatory letters came in from Tony Boucher and Horace Gold; even John Campbell dropped me a brief — and patronizing

— note. But the truly valued accolade was furnished by the readers: that entire first issue was grabbed up within ten days, with the distributors yelling for more copies.

The next two issues were similarly received. Bill Ziff, Sr., chairman of the board, sent for me, gave me a \$200 a month raise and called me a “shirt-sleeves editor.” I wasn’t too sure what he meant by that, but since he was smiling when he said it, I let it go.

Now as I said, I tried to get authors not ordinarily seen in our magazines. Since 30 years have passed since Mickey Spillane’s “The Veiled Woman” was published, I suppose there’s no reason why the story behind it can’t be told. Here’s what happened: In the early 50s Spillane was one of the top — if not *the* top — selling writers in the country. His name on our contents pages, I figured, would sell one Hell of a lot of magazines. I called a number of agents to learn who was handling Spillane; found the right one, and asked if he could prevail on Spillane to do us a novelette-length fantasy. It just so happened that Spillane *had* written a fantasy titled “The Woman With Green Skin,” but it hadn’t sold. I paid a thousand bucks for it, set it in type, arranged to have a paper band encircling each copy blurbing the story. Fine . . . except four days before the issue was to be printed, *Life* magazine ran a lengthy article on Spillane, one page of which showed a series of candid-camera shots of him telling a story . . . “The Woman With Green Skin.” So now I don’t have a scoop; I have a reprint of a story that’s appeared in one of the highest-circulated magazines on the stands. I tried to reach Spillane, hoping he could either substitute an existing piece or turn out another for us fast. I couldn’t reach him; he was off somewhere in Jersey doing research on a new book. So I took the only course open to me: Doing my best to match the Spillane style, I wrote a novelette called “The Veiled Woman” over a long weekend, put his name on it, and went to press. The issue sold out in three days, dealers yelled for more, I tried to talk Circulation into putting out another 200,000 copies, but it was decided at the top level to take our profit and run. . . . A couple of days later Spillane called me in a towering rage. Where did I get off running a piece of junk like “The Veiled Woman” under his name? After I explained the circumstances, he calmed down, saw the untenable position I’d been placed in, and agreed to forget the entire incident.

At *Fantastic*, meanwhile, one issue later the magazine was back almost to where it started, though we did have a good inventory of stories by then. The glossy cover was gone, the interior art was back to black on white, and story rates were back to a cent a word.

Why?

I never really found out. There was some vague talk about how the Korean “police action” was affecting the supply and cost of paper; as anyone in Washington can tell you, it takes a lot of paper to fight a war. All

I actually know is that I was permitted to keep the \$200 raise and to add an associate editor, Paul Fairman, to my staff. But circulation figures began to decline, agents stopped taking me to lunch at the Pen-and-Pencil Club, and the fanzine editors wrote me letters on asbestos paper. Sic transit, etc.

Still, life limped on. Deadlines were met, *Amazing Stories* was cut in size to match *Fantastic*, and we continued to number the pages consecutively. Sometime after this, Lila Shaffer left the company to return to Chicago and a happy marriage. Fairman took over her spot as managing editor.

Fairman showed up on the scene shortly after I assumed editorship of the Fiction Group. He was a tall, cadaverous man in his thirties and would have been type-cast as an undertaker. In going through the slush pile (unsolicited manuscripts), I found two excellent detective short stories with his byline. He showed a Chicago address; I wrote asking him to stop by and enclosed a check for the two stories. It turned out that he was a maintenance man (janitor) for the Auditorium Theater, lived in the building basement, was a high-school dropout and lived a hand-to-mouth existence. But, as is the case with so many successful writers, Paul was an omnivorous reader and proved to be a natural writer. He was excellent at plotting, wrote quickly with little rewriting, and supplied material not only for the two detective magazines but fantasy, SF, and Western stories as well. When the move was made to New York, Paul, with no roots in Chicago, came along for the ride and, when an opening occurred, joined the staff.

A year or so before I left Z-D, Davis suggested we put out a new magazine entitled *Pen Pals*. It would be made up of letters from lonely souls and shut-ins seeking contact with others in similar circumstances. To me the whole concept had the smell of a disaster, so I did my best to abort the idea by stalling until Davis lost interest in the thing. It didn't work; he finally gave me a deadline and warned that I'd better by God meet it. I said, "Yessir," and turned the project over to my secretary and got out of her way.

Which is how Cele Goldsmith got into magazine editing.

She was inundated with letters from psychos, freaks, voyeurs and amateur pornographers. Far outweighed were letters from people who simply wanted to correspond with the unkinky sector. Cele, wearing a constant blush, was able to put an acceptable issue together and get it onto the newsstands. It never got off them, and to the relief of everyone except Davis (who refused to speak to me for a month afterward) the project was abandoned. As for Cele, she refused to go back to being a secretary, so the slush pile was turned over to her to cull out manuscripts showing promise; and she became an associate editor without portfolio. As it turned out, she proved to have a solid story sense and an aptitude for knowing how to turn a borderline case into an acceptable piece of fiction.

A year or so later, I was offered a contract to write TV scripts for the Warner Brothers studio in Hollywood. I took them up on it before they could change their minds, suggested to Davis that Paul Fairman take over the Fiction Group, bought three sports shirts and a bottle of suntan oil, divorced my wife (much to her relief), and lit out for the West Coast.

As the new editor, Fairman decided to go back to the system of selecting and buying material first installed by Palmer: put together a stable of competent (if not especially talented) wordsmiths, guarantee them a regular monthly income sufficient for their basic needs, and turn them loose to fill the pages of all the magazine. As he explained some years after leaving Z-D, he felt that pulp magazines, no matter what the format, were on their way out and that top quality stories might delay the end but not prevent it. Consequently most stories went direct to the printers without being read. Not that the quality was uniformly second-rate: talented writers such as Robert Silverberg, Randall Garrett, Ted Sturgeon, and Milt Lesser managed to fight their way onto the contents pages. Still circulation figures continued to erode. . . .

Fairman remained as editor till 1958, then left to devote full time to turning out soft-cover detective and suspense novels under various pseudonyms at the rate of ten a year.

At this point Cele Goldsmith took over.

For some reason (probably a reluctance to reveal that a woman was in charge of what were essentially male-oriented magazines), Cele was not listed as editor on the mastheads. But she *was* the editor — and a damned good one — undoubtedly the most caring and dedicated that *Amazing* and *Fantastic* ever had under the Z-D imprint. Like Palmer, she loved the genres; unlike Palmer, she demanded — and got — excellence in all the ingredients that go to make up a superior story. The names of fringe writers began disappearing from the pages, replaced by those of Ursula LeGuin, Fritz Leiber, John Jakes, Philip Dick, Poul Anderson, *et al.* By bringing in this caliber of talent, Cele Goldsmith was able to plug the holes in the dike until well into the '60s. But eventually factors beyond her control combined to do her in and the magazines were put up for sale. Outright cancellation would have cost the company heavily in subscription refunds. Another publisher took over the titles, and after twenty-five years Ziff-Davis was out of the pulp magazine field. For sixteen of those years my name had appeared on the mastheads of *Amazing Stories*, *Fantastic Adventures*, *Mammoth Detective*, *Mammoth Mystery*, *Mammoth Western*, *South Sea Stories* and the ill-fated *Pen Pals*.

I'll say this: being an editor beats the Hell out of being a credit man. . . .

THE WRITERS

It would be grossly unfair to denigrate the efforts of those who contributed the bulk of the material to the Z-D pulps during Ray Palmer's

stewardship. Not only did he dictate what *type* of stories he wanted; he insisted on dictating the *style* to be used in the writing itself. With that kind of handicap going in, it says a great deal for the writers that they were able to function at all.

During the Z-D years, every member of the Fiction Group staff, except for Lila Shaffer, wrote reams of copy for the magazine. With, at times, six monthly periodicals to bring out, many running better than 200 pages, it took the combined efforts of stable and staff to fill them. The rate per word was the same for both; "house names" were used as bylines; at times several stories by the same staff writer, under different pseudonyms, appeared in the same issue. Palmer wrote extensively and effortlessly, mostly for *Amazing Stories*, usually as "Alexander Blade," although from time to time both Fairman and I used that alias. Fairman's work appeared in all the pulps, while most of my stories were for the two detective books, either under my own name or as "William Brengle."

I turned out a great many stories for *Fantastic Adventures* and *Amazing Stories*: "They Gave Him a Rope" by H. B. Carleton, "Return to Lilliput" by William Brengle, "The Star Shepherd" also by Brengle, "Forgotten Worlds" by Lawrence Chandler, "The Strange Mission of Arthur Pendran" by John X. Pollard, "The Man From Yesterday" by Lee Francis, "The Seventh Bottle" by Ivar Jorgensen (normally Fairman's byline), "Planet of No Return" by L. Chandler, "Carbon-Copy Killer" by Alexander Blade, and "Call Him Savage" by a forgotten pen-name. Those are the examples that come to mind; there were others long since forgotten and probably better so. But in their defense I can say this: not one was ever anthologized.

With the change to digest size, material from the staff largely ended. Attracted by word rates as high as eight cents, the contents pages showed such contributors as Ray Bradbury, Isaac Asimov, H. L. Gold, Roy Huggins, Truman Capote, Cornell Woolrich, Louise Lee Outlaw, Theodore Sturgeon, and Richard Matheson. "Professor Bingo's Snuff" by Raymond Chandler got into our pages because I had admired the man's work for years (since he first appeared in *Black Mask*). I ran across "Snuff" in a NY magazine called, as I remember, *Park East*. It had a microscopic circulation, so I was reasonably sure not many readers had run across it.

John Toland's first effort as a writer appeared in *Fantastic*; he went on to do such works as a two-volume biography of Adolf Hitler and two volumes on Japan, the latter bringing him a Pulitzer prize. William P. McGivern, who got his start with the Z-D pulps, turned out some 25 novels, two of which were Book-of-the-Month and Literary Guild selections.

And then there was Richard S. Shaver.

* * *

THE SHAVER MYSTERY

It all started simply enough — and ended up damned near wrecking *Amazing Stories* for all time. I was at my desk sorting casually through letters from our readers. One specimen caught my attention: a six-page spewing of such egregious nonsense as I've ever run across. The article, written by Richard Shaver, mentioned, among other things, that he had positive proof that a crazed race of sub-humans numbering in the thousands were living in underground caverns throughout the world, that by means of "rays" they brought about practically all of Earth's problems including but not limited to wars, earthquakes, floods, pestilences, and terminal dandruff. These creatures called themselves "deros" and, unless eliminated, would eventually destroy humanity. The author went on to say that he had an undercover pipeline of some sort into dero headquarters, and had put together a mass of information about these creatures and exactly where they were located. Included in this drivel were examples of dero language, including the startling information that God spelled backward was dog!

I read portions of the article aloud for the amusement of Palmer and a couple of writers who were in the office at the time, then pitched it into the wastebasket.

Palmer said, "And you call yourself an editor?" He retrieved the pages, handed them back to me. "Run the entire thing in next issue's letter column."

It was the kind of grandstand play he was addicted to all the years I knew him. I said, "As a fledgling editor anxious to learn the trade, I'd love to know why you want it run."

He gave me his cherub-type smile. "One of these days," he said, "I'll tell you why."

The article went into *Amazing Stories* — and drew an astonishing response. Readers demanded more information about the deros, an ex-marine announced he intended to form an army of former servicemen to seek out these aliens and save the world by gunning them down. Palmer asked Shaver for everything he had on paper about the deros; Shaver sent him nearly 150,000 words on the subject; Palmer ordered more of the same, rewrote extensively and ran the stories month after month. Circulation climbed, reader response was awesome.

Amazing Stories had captured the lunatic fringe.

It was then that Palmer said, "Now you know why I wanted that first article of Shaver's run."

I said, "Tell me anyway."

He said, "Any editor worth his salt has one goal: to increase circulation figures. When an opportunity to do that comes along, he has to know how to recognize it, make it work for profit."

I said, "Even if it alienates a lot of our readers?"

"We bring in more than we lose. Look at the figures."

"I just made up a slogan," I said. "Want to hear it?"

He lifted an eyebrow at me and waited.

"Goes like this," I said. "'There is no God but Palmer, and Shaver is his Profit.'"

Not long after that I left the company.

When I returned a year or so later, I immediately wrote off every manuscript bearing Shaver's name. Not because the stuff was hurting, or helping, sales, not because of reader criticism, not because — as rumor had it — the company brass wanted it killed (I doubt that they even knew about it). I dumped the entire insanity because it stunk up the joint.

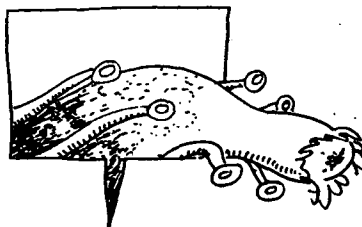
The demise of the pulps put an end to a form of pop art dating back almost a century. They were training grounds for beginning writers, enabling them to earn a living while polishing basic talents. Few of the Old Guard — both writers and editors — are left. Gone to that Great Word Processor in the Sky are Ray Palmer, Berkeley Livingston, LeRoy Yerxa, Paul Fairman, Robert Moore Williams, Frank Gruber, Raymond Chandler, David Wright O'Brien and William P. McGivern.

But such craftsmen as Robert Bloch, William Hamling, Dwight Swain, Don Wilcox, Ryerson Johnson, and others of that era are still with us.

And up till now at least, so am I.



CARTOON



William Rotsler

CARTOON



Alexis Gilliland

MIRROR IMAGES

by Alan Slate

art: Artifact

Alan Slate decided several years ago to become a writer. After trying it in the school of hard knocks for a while, he enrolled at the University of Illinois at Chicago. He edits the student SF society's fanzine; this is his first professional sale.

ONE YEAR AGO

Sweat rolled down his forehead from the heat of the South American summer sun. While his score was totaling, Juan Aguilar wiped the sweat away. His third game was his best, and the machine requested his initials to put with his score at the top of the ten best scores list. Second and third place were also his. He carefully entered the letters, then dug his hand into his tight pocket for another coin, fumbling around his keys, finding nothing. He pulled out the keys and fingered the fabric against the muscle of his thigh, but it was empty. Oh, well, no lunch at school tomorrow, he thought. It was time for dinner anyway, then study.

He walked out of the Video Parlor, kept dark because of the video screens, and into the overpowering sunlight. He squinted his eyes and walked down the street half blinded, reliving the feel of the joystick in his right hand, the firing buttons under his left, attacking the dreaded invaders . . .

A car's horn honked and the car screeched around him, bringing him back to the real world. Tomorrow, after school, he would look for a job, maybe at the Air Force Base outside the city. How would he tell his father and mother? Maybe he could work at night, allowing him to finish school and still have time to play the Game. Get the job first, then tell his parents?

He looked up the telephone number of the Base the next morning, then put off calling until lunch time. In front of the phone, he took out the piece of paper with the number and smoothed it out. He reached in his pocket before he remembered he was broke. Somehow he was relieved, and he spent the rest of the schoolday as he had many others, even going hungry, unable to buy lunch. After school he went to the Video Parlor, knowing full well he had no money to play.

Juan sat in front of the Game and fingered the controls for a while until a kid five years his junior demanded he move, then shouldered him off the stool and dumped a double handful of coins on the front of the Game. While the kid chased runaway coins as they rolled across the floor and between the legs of other machines, Juan was tempted to grab a couple of



the coins on the machine. But the kid's bad manners were no excuse for worse manners on his part.

He watched the kid play a series of bad games. From his vantage point behind the kid he could see a lost coin leaning up against the leg of the next game over. It is good manners, he convinced himself, not to interrupt the kid at his game. He would wait until the kid left and collect it himself. It might not be the kid's at all.

But it was almost torture to watch how badly the kid played. Halfway through his stack of coins the kid turned to him and rubbed it in: "Isn't this fun?"

"No," he said and left.

The next morning he made the call and found there was a civilian hiring office right in town, close enough to get there and back on his lunch break from school.

"Stock clerk," the hiring officer told him.

"I don't know . . ." he trailed off.

"The only job open at night."

"Um, O.K." And Juan was hired.

"Don't steal, kid," the night manager told him. "Nor do you play the TV's, radios or record players on display. Your job is to clean and dust, restock the shelves, mop the floors, wash the windows, clean up the rest rooms. After dawn, when it is light enough, you go out and pick up the garbage the soldiers dropped outside. I find you not working or fooling around with the stock, out you go. You'll never get another job on the Base. All the stuff you need is in that closet." The manager indicated a direction with a wave of his hand, and Juan was caught by surprise in the change from a bored-sounding tirade to instructions he could use. Sure enough, behind a floor fan was a closet. With a squeak of his easy chair, the manager leaned back, propped his feet up on the desk and started to read a comic book. A second later he looked over the comic. "You're not working," the manager said, then returned to reading.

Juan went into the closet and collected a broom, mop, pail and rags. Clanking out of the closet, he asked, "Where do I find —"

"Dammit, kid, if I gotta show you everything, I'll fire you and get someone with some brains!"

He swept down one aisle and mopped it back. By his third aisle, he felt he could do this in his sleep. By the fifth aisle he wished he was. He turned the corner on the sixth aisle and there it stood, like a king enthroned amid lesser subjects. The Game. He was broke, but he wanted to sit in front of the machine and work the controls. But the scuffle of sandals coming at him stopped that idea. The night manager looked at the swept and

mopped aisles, snorted, put the comic back in the rack and took another. He walked back down the one still wet aisle, leaving dirty footprints tied together by heel scuffs.

The aisle had to be remopped.

Days and nights for the next several weeks tended to blur in Juan's monomaniac pursuit of . . . of . . . Even Juan had trouble defining what his goal in life was. There was the Game, of course. But the Game was not forever. School wasn't either, but what would be? The weeks passed in a close-marching procession of school, the Game, work and sleep, over and over again, day after day. The bright spots tended to be inflamed by anger, like the time Juan found out that he had to punch out before leaving the store, which meant he was picking up the outside garbage on his own time. Or lit by the fire of fear, like the times he was almost caught playing the Game. But slowly he came to know how long it took the manager to read a comic book or girlie magazine, and worked or played around that schedule. He was helped also by a switch on the back of the Game that turned off the sound. The Game played oddly without sound, but it still was the Game, sound or no.

In the morning he would ride the bus into the city with the farmers' wives, going to the market in the city. Chickens hung head down from the luggage rack while the railed cargo rack on top the bus was full of tied burlap bags of rice or corn or vegetables. Dawn was less than an hour old, and the sun hadn't time to burn off the fog that had settled on the low fields. He sat far from the other passengers while they talked in oddly idiomatic Spanish. He sat and looked out the window at a single tree that stood out from the ground fog. Ten miles from the city and it was like another world. He smiled to himself; slowly he was filling up the top ten scores of the Game with the initials, KID. This private joke was his private revenge against the night manager.

In the evening, on the bus going out, it was soldiers. The soldiers were just as foreign to him as the farmers' wives, their language filled with unusual words and nuances of their own. They put on the luggage rack packages that they brought, neatly wrapped in newspapers.

The wrapper of a package caught Juan's eye. **City To Ban Arcade Game Parlors**, a headline read and he thought, "Oh, no!" And this — with the Games starting next week! All over the world, National Video Game championships were about to begin. This grand tournament filled him with awe at its size, yet still gave him a feeling of comradeship with his unseen opponents. And then, if he was good enough, the International Games in the United States.

That night there was even worse news. Taped to the front of the Game was a small card. "Would KID please report to the Base Commander?"

He didn't play it at all that night.

HALF A WORLD AWAY

Summertime in South America was the time of winter in England. Winter meant cold and clammy, cloudy skies, and some light snow. It had been five years since the British Navy sailed southward in defense of its dwindled Empire.

"Hey, kid, you're pretty good at this, ain't cha?"

"Yeah, I guess I am." He stole a glance from the screen to the person who had spoken, then back to the screen. With the Navy base right outside of town, it was not unusual to see sailors here. Some played a decent game, and all told of the Electronics Crew, reportedly able to beat any and all comers. Let them come here and try me! He felt in tune with the game, his movements quick and sure, with no time-consuming backtracks and no misses. He was as ready as he would ever be for the National Video Games next week, and after that, a good shot at the International Games.

As he moved a floating force field between his ship and a blip just then appearing on the edge of the screen, he glanced at his score. He was hot tonight. He glanced back just in time to stop the force field in the right position. He moved some space mines around as backup: the force field would only stop one incoming missile. The blip disappeared, but he knew a green dot would shortly appear somewhere along the line that connected his ship with the now gone blip. Sure enough, one did. He moved some more forcefields and space mines to that side, as the dots had the tendency of appearing grouped together. Unnoticed, a blip appeared on the other side. One second later a green dot, then two, then three appeared, inching towards his ship. When he saw them, he instinctively knew it was too late to move the slow screens or mines. In desperation he tried a few shots with his laser, but the range was too great. Back on the other side of the screen, he repositioned a field and a couple of mines for that side's second green dot, then tried the laser again on the other side and got one. He rolled it over to the second and eventually got it. Quickly he rolled the laser over to the third; but it was close, too close: and then it merged with the ship. The screen blinked red, yellow, white, as silhouettes of bodies shot out from the center of the screen and the speaker made noises like explosions. GAME OVER, the screen said, PLEASE USE CONTROLS TO ENTER YOUR NAME. A line of blanks appeared on the screen and he went down the line moving an N in the first position, then an E, and so on until he had spelled out NELSON.

"Great game," the sailor said. "Can I play one?"

While the kid stretched and wiggled his fingers and thought how to say no politely, the sailor pulled out a bill and said, "Get us a couple of Cokes."

I just want one game."

• The kid did as he was told.

When he came back, the sailor was deep into playing a good game. But there was certain hesitation, followed by overcorrection. Good, but not great.

The sailor's game ended with the usual explosion and flying silhouettes of bodies. "Whew," he said and wiped imaginary sweat off his forehead, but his smile said that he had played a great game. The corners of his mouth slowly slid down when the top ten scores flashed on the screen.

"That you?" he asked Nelson, tapping the top score.

Nelson nodded, styrofoam cup of coke to his lips.

The sailor tapped numbers two and three, "I don't suppose you have two brothers?"

Nelson almost drowned in his coke with laughing. Luckily he spilled most of it down his T-shirt.

"How would you like to get paid for playing?" The sailor indicated what he would be playing with a jerk of his thumb over his shoulder at the game.

"I . . . uh . . ."

"Don't answer now. Come on with me." The sailor took him by the elbow and steered him out, a cup of coke in each hand while his T-shirt slowly dripped on his jeans. Into a Navy staff car and off towards the Base.

"I . . . uh . . ."

"Hang on a second." The sailor picked up the mobile phone in the car and pressed out a number. "Captain," he said into the handset, "Meet me in the Simulation Room in five minutes. Got a kid," he rolled an eye over to his passenger, "Got a young man who can beat the pants off of your crew. Better make that ten minutes. Yes, sir." And he hung up.

"I . . . It's getting late and I should really be getting home. My parents . . ." He faded off, suddenly wishing he didn't sound like such a kid, wanting to sound more like a young man.

"Too right! Want to call them up?"

"On this? Sure do." He was halfway through his home number when he realized that he didn't know what he was going to say. He put the handset back in its cradle. "I don't know what I'm going to say," he confessed.

The sailor looked back and smiled, then picked up the phone. "Dial home." While Nelson entered his number, the sailor asked, "Going to college?"

"Wish I could. Not enough money. I . . ."

The sailor held up a finger, then spoke into the phone. ". . . And if he makes the grade, the Navy will pay for four years of college . . ."

Nelson couldn't see how his parents could refuse. That deserved a

toast. He finished off both cokes and threw the cups out the window.

"Ah, could you hold on a second?" The sailor stopped the car, got out and retrieved the cups, then threw them into a trash basket on the street corner. He got back into the car and continued talking to Nelson's parents.

Nelson decided that never again would he throw trash out a car window. The sailor finished his call and gave him a thumbs up sign. "It's all up to you now," he told him. "Want to join the Navy?"

"I . . . uh, how soon will I be in the Navy?"

"There's some paper work involved. Say by noon tomorrow?"

"The National Video Game tournament starts next week. And if I'm lucky enough, the International Games in the U.S. this September."

"Don't worry, the Navy will be happy to send you to them. Glory to the Service, and all that."

"Noon tomorrow will be fine."

SIX MONTHS LATER

Nelson, as Defensive Game Winner, tried to be friendly in Spanish to the winner of the Attacking Games, and that winner tried to be friendly in English. Aside from showing friendship, it was obvious that they failed to be understood. Amid the lights of the video cameras and the flashes of the still cameras, they shook hands with uncontrollable grins that were beginning to hurt.

The next day, on the plane back, Nelson slowly came off his high. Returning to Base on the bus prepared him for the total loss of celebrity, but his group of electronics ensigns held him in awe for fifteen minutes as they bombarded him with questions. Then the Electronics Officer came in and it was practice as usual. Next month there was a fleeting return to being a celebrity with his picture in the video gaming magazines, grinning like an idiot. For once, someone took a photo worse than his Navy ID photo. The next day his photo had been torn out of the magazine and posted on the Simulation Room's bulletin board.

In just about any town, one could find a place like this, only with differences. This was not a video game parlor open to the public. Here there was no cashier, trading stacks of coins for bills. The arcade machines here had no coin slots. And the gaudy colors of the machines were replaced by the strictly utilitarian color of battleship gray. DEFENSE GROUP DELTA, now became MANEUVERING UNIT, NETS, HELICOPTER-TOWED, COMPUTER SIMULATOR OF, in some weird reversal of normal English. Or MINES, REPEATING, FLOATING, RADIO-CONTROLLED, SELF PROPELLED, COMPUTER SIMULATOR OF. The young men, most sailors for less than a year, played the games with odd intensity, preferring to play here at the Naval Base rather than going into town after hours.

Outside their window, a carrier lay at anchor.

Now

Dawn came up over the quiet ocean. The morning breeze threw dappled patterns across the slight swell and chased small clouds along the horizon. A distant drone grew louder, and suddenly a jet plane split the calm between sea and sky.

The air stream, pushed aside by four smart missiles hanging below the wings, left a straight line of troubled water.

Seemingly too thin for its pilot, the nose of the plane stuck out far from its main body, pushing its fragile cargo of man first into harm's way. Inside the cramped control cabin, amid the crowded panels of flat black gauges, greenish-white legends, neon orange pointers and red nixie tubes, a light glowed. Juan, waiting for the light, pulled the stick back to his gut, then pushed it forward, back to its neutral position. The long-range fighter obediently stood on its tail, and the twin bluish flames of its engines briefly touched the sea in two small pockets of steam, then followed the airplane as it screamed upward. Thirty seconds later he leveled off, took a radar snapshot out to his increased horizon, then dove down for safety. He found a switch without looking down and turned on his radio. "Homeplate, this is Rabbit Three. Spy hop six clear. Repeat, spy hop is negative." The unmoving silvered bubble of his helmet gave no indication Juan was talking.

"Rabbit Three, this is Homeplate. We copy your last transmission."

The area clear of surface ships, Homeplate sent out the slow and defenseless helicopters. Lifting off their springy undercarriages, they banked and swung around out to sea, trailing behind them long cables like ovipositors. Stopping every so often to hover over the sea, they dipped their cables and listened electronically for creeping submarines.

"Homeplate, this is Wasp Four," one helicopter sent back. "Negative reading at six. I repeat, no reading at six."

"Wasp Four, we copy. Homeplate, out."

The sea became calm again as the search moved elsewhere, but deep below the surface a submarine crawled. Twin antennas waved upward from its conning tower. Sensors on them registered the thermocline, where sonar would be bent away from the sub. Slowly it listened left and right as it crawled along the bottom.

Skimming the surface to its next climb point, the Rabbit Three's pilot tried to stretch in the formfitting couch and wanted to open his helmet to rub his face. The endless tossing of wave after wave was slowly lulling him into drowsiness. The red light blinked, and he pulled the control stick back. At the top of his climb his radar showed something that brought him instantly wide awake. His hand flew to the familiar switch.

"Homeplate, this is Rabbit Three. Bogies at Spy Hop Seven. Range 51,000 at 97 True. Big group, a task force. Maybe a carrier group."

"Rabbit Three, Roger. Attack at will. Rabbits Two and Four will be closing to join you."

A bogie appeared on the screens of Carrier Group M, then disappeared. A freak reflection, an electronic glitch, or the real thing? The Radar Control Officer chose the last and told the Captain over the intercom. Within minutes, small interceptors were catapulted down the carrier deck and tossed into the air by the bow. "Fox Group airborne," the Deck Officer told the Captain. After an exchange of salutes, the D.O. about-faced and went off to get Locust Group airborne. The Captain bent over the bridge's intercom: "Electronics Officer?"

"Here, sir."

"Get the kids ready."

"Aye, sir." Down below, the E.O. turned to his group and nodded to their expectant looks. They put down their Cokes and turned to their computer consoles.

"Uh, oh," the pilot of Rabbit Three said to no one as his radar showed incoming jets. He dropped his last smart missile, banked away and climbed. "Homeplate, this is Rabbit Three. I have attracted four bogies and am running for cover. Out."

"Homeplate to Rabbit Three. Copy. Homeplate to Bramble One, I've got Rabbit Three in trouble."

"Homeplate, this is Bramble One. I've got his fix and I'm on my way." The pilot banked his four-engine prop plane and slowly lumbered to help.

Rabbit Three's radar showed that his pursuit had launched heat-seeking Pit Viper missiles. He dropped a thermite flare and dove down to sea level.

The first missile closed with the flare and took it out. The second, its primary target overloaded by the explosion, twisted in the air to follow the flaming debris. The third and fourth continued on, hot, straight and normal.

The pilot of Bramble One saw the bright flare long before he saw the plane. At first he thought that Rabbit Three had bought it, but his radar said differently, and a second glance showed that the point of light was a flare and not a fireball of aviation fuel. He continued on to help.

Still headed in the opposite direction, Rabbit Three's smart missiles were closing with Carrier Group M.

Deep within the carrier, the Electronic Officer oversaw his group. His reactions slowed by age, he could only watch his master screen with

adrenalin-induced energy. Knowing his kids could beat him ten games to none, he kept his hands off the over-ride controls. He watched as the defenses slowly took shape. The helicopter-towed nets looked like they were too far out of position to catch the first missile: the balloons that floated them in the air and the floats that held them down in the water combined to slow them up. Maybe one of the self-propelled repeating mineships could get below the missile in time. His hands twitched as he mentally tried to help the mineships along, but he didn't touch the controls. He had stopped playing the kids when they spotted him the helicopter nets and the radar-assisted electric gatling guns and beat him using the mineships alone in electronic simulations.

The slight boom and rattle of the compartment's walls told him the big guns had opened up. Up above, black roses of anti-aircraft explosions were blossoming in the sky while tracers from machine guns dashed out to the horizon. On the other side of the ship, the gunners stood stiff at their guns and watched the empty sky while the hairs on the backs of their necks itched.

Individually, yet almost all at once, as though from an unheard command, his kids turned and smiled at him, small, tight, *quick* smiles, and turned back to their controls. Nelson, the best of them, looked around at the others and then gave him a thumbs up signal. Nelson's first battle, and he was already acting like a pro. Somehow he felt like crying for them all.

The first missile passed the nets before they could be placed in position and was only deflected slightly by a mineship's explosion. Three guns trained on it; and one gun, through luck and talent, stitched a continuous seam of bullet holes along its length. It exploded and peppered the surface of the sea with fragments. The second tore through a net that puckered inward before ripping the control fins off it. It cartwheeled once, twice, three times across the surface before disintegrating in flaming globs that nearly touched the ship. The third missile was hit in the rocket nozzle by a mineship blast and dove into the water where it exploded in a geyser of water followed by a smoky belch of burnt rocket fuel. The kids waited for the fourth missile, while on deck, sailors frantically tried to reload the magazines of the miniguns. Reloading the mineships would have to wait; and one helicopter crew tried in vain to hook onto its net, torn away when the missile hit. But every time they swung over the net, their downblast pushed the balloons away. The kids waited at their consoles.

Electric miniguns waved streams of high powered brass at the last missile until they were empty. The self-propelled mines threw up curtains of water and pieces of steel between the missile and the aircraft carrier. Helicopters maneuvered nets in vain.

The side of the ship seemed to open up for the piercing missile in some obscene act of martial rape. A fraction of a second later part of the deck erupted and blew off in a noise that left a moment of apparent silence after it. Pieces of hot metal rained from the sky and sizzled when they hit the sea.

Those nearest the explosion were turned into red goo that coated the walls, then charred in the heat of the explosion. Those a little farther away were blown into larger fragments while those even farther away were just as dead from concussion and shrapnel. Then came the horribly injured and maimed, then the injured, and so on until those on the other end of the ship were not even sure that they had been hit.

The explosion forced the unspent missile fuel in a growing fireball through the corridors of the ship, melting insulation from wires, blistering paint and linoleum, and burning flesh and hair. Lungs inhaled the burning fuel for one last yell as the wave front passed leaving still twitching corpses and smoking walls.

"We've been hit," he said to his kids as they repeatedly jabbed their reset buttons, then looked at their dead screens in dismay. The E.C. Officer thought of 300,000 gallons of aviation fuel. "Everyone on deck!"

"Maybe we'll get control back," Nelson said. "Maybe we should wait right here."

There is something to be said about not abandoning your post without orders, the E.C. Officer thought. Two thousand years of sailing tradition . . . Yet these were just kids, and the hell with tradition. Let them invent their own. "Everyone on deck! Maybe we can help with rescue or damage control." They opened the door to a smoke-filled corridor.

Rabbit Three climbed for the sun, watching the radar. The missiles were close and Juan was breathing quickly, yet no sign of panic showed in his movements. He jinked back and forth, and only one of the missiles followed. He dove sharply and the other missile continued onward in a fruitless effort to join with the sun. But the last missile dove too, closing with Rabbit Three.

Two of the carrier's Red Fox interceptors fired heat-seeking missiles at the closing Bramble One, but the piston engines put out too little heat to attract them, and they passed by a half a mile away.

"Time for a turkey shoot," the lead interceptor pilot said into his radio and they peeled off in a line for a strafing run.

The six Terrier miniguns on Bramble One opened up. At 6,000 rounds per minute each, the tracers looked like solid streams as they wavered toward the interceptors. Banking in a tight turn, the interceptors circled the slow prop plane, outside the gun range of both.

The radar screen had a prominent position in Rabbit Three's control

panel, centered directly in front of him. A green dot slowly inched towards the center. There was one maneuver left to him, a violent evasive maneuver just before the missile struck. At eighteen, he already had four hundred hours of watching a screen, judging green dots closing with him; the control stick became the joy stick of a video game and he became oddly calm as outside the reality of the missile closed with his plane. At just the right moment he kicked the foot controls down left and up right and the stick went to his stomach. His peripheral vision showed the missile passing by the ship, too close, then the white light of an explosion tore off the wing and canopy and smashed his helmet into his face.

A high-altitude bomber came over the carrier and dropped a smart bomb. Sensors in the bomb saw the carrier and controlled the bomb's guidance. Using only gravity and the airstream, with no need for fuel, pumps or rocket nozzles, it was almost all explosives. It landed just aft of the bridge and split the ship in half. Nelson was blown off his feet and rolled over the deck towards the edge. Fifty feet over the water he clung to the edge of the ship. A smoking piece of shrapnel fell, bounced and touched his arm. He yelled and dropped into the water, plunging deep as 300,000 gallons of jet fuel caught and went up in a fireball.

Juan found the ejection control by remembering where it was. He flipped the cover off it and turned the switch. He had time to panic at the thought that the mechanism was damaged before it shot him out of the tumbling plane. The jerk of the parachute ripped the facemask off his face, and he found that he could see again, until blood from all his facial cuts flowed into his eyes.

Suddenly his face was on fire and he opened up his mouth to yell, but it filled with cold sea water.

He bobbed to the surface and fired off a smoke flare. Twenty minutes later, a friendly helicopter came over and lowered a sling. While a corpsman checked him out, the helicopter swung out to the enemy task force to help recover their wounded. The prominent red cross on a white circle almost guaranteed their safe passage. The two winners of last year's International Video Game Tournament didn't recognize each other in their short hair, blood and soot, their faces drawn and tired. They dropped off the recovered enemy troops at a cruiser with a helicopter landing pad. There they were offered fuel and, in a gesture of thanks, a half-smoked pack of Players cigarettes from one of the sailors that helped them unload. Suddenly to Juan, the enemy had faces and were no longer the dreaded invaders. . . .

ONE YEAR LATER

He went to college while he was still in the service. Then one evening he

stopped in a video arcade parlor. He tried several games: still good, but he had lost that "feel." Reactions slowing down. There was a new game, something like Defense Force Delta, but it was three-dimensional. Using the latest in hologram technology from the States, it had space ships flying over a fortress and dropping guided bombs on it. The defense was helioplatforms that could shoot at the bombs. Nelson stood around and looked at the kids, only a year or two younger than him. One kid was great.

He scratched absently at the scar on his forearm. That extra dimension sure made the battle look real. It was like you were really up in one of the platforms shooting at the dropping bombs. His scar stung and he was afraid: he had been in a similar situation. "Get it, get it, get it," he yelled. And the kid did.

When the kid finished, he turned around. Sweat had beaded his forehead and arms. "Fantastic game."

Nelson found that he had sweated it out with him. "You're a bit of alright at those controls."

"I need a rest," the kid said. "Want to play a game?"

"No, I'm getting old and my reflexes are shot." He paused for a second as glimpses of his ship, explosions, running and yelling men, fire and smoke, and the long fall into the water went through his mind's eye. "Going to college?" he asked.

"Maybe. Maybe never. Don't have the money."

"I've got an idea that you might like to hear."

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IMPROBABLE BESTIARY: The Vanishing Man

I'll tell you the tale just as quick as I can
Of the day I discovered the Vanishing Man.
In a field, north of Nashville, I happened to meet
A man who was real, but he seemed incomplete.
Then I noticed the problem: *he didn't have feet!*
His legs finished off where his ankles began.

"*I'm stuck! Help me out!*" said the man with a shout,
And his legs with no feet dangled over the ground.
"*I'm stuck in some hole I can't see or control . . .*"
Then his knees slowly vanished, not making a sound.

I ran to him then with all possible haste,
And I got a firm grip on the man by his waist.
Then I pulled and I tugged just as hard as I could,
I groaned and I strained, but it wasn't much good;
He was stuck, like a tree, rooted right where he stood.
And then both his legs were quite simply *erased*.

He yelled, "*It's no use! I can't seem to get loose!*"
And he floated, a man with no legs, in midair.
"*Let go! Leave me be! Or you'll vanish like me!*"
Then I looked for his hips, but *they just weren't there*.

I ran to fetch rope, for I thought a rope might
Save the Vanishing Man (though his chances were slight).
By the time I returned, it was worse than I'd feared:
His stomach and chest, they had both disappeared . . .
And he'd vanished right up to the tip of his beard!
Then his head, while I watched, began fading from sight.

He started to cry: "*What is happening? Why?*"
But the rest of his voice faded, faint and unknown.
The bits of his face slowly vanished from space
And I found myself standing there, cold and alone.

But where did he go? Well, I cannot ignore
One historical fact: *Men have vanished before*.
And at night, in my nightmares, I see them inside
A specimen jar, or a microscope slide,
And I wonder . . . *Is there any place we can hide*
If whatever collected them comes back for more?

— F. Gwynplaine MacIntyre

Improbable Bestiary 95

OBSERVATORY

by George H. Scithers

Editors of science-fiction magazines buy stories, write editorials, copy-edit manuscripts, assign illustrations, assemble issues of the magazine, compose direct-mail advertising copy, . . .

Mostly, though, we read and reject bad manuscripts — which really isn't as awful as it sounds, put that way. For one thing, we don't segregate manuscripts into "slush" and stories by professionals we know; it's all one pile. For another, it's a series of challenges: is *this* story going to be so good we simply cannot resist buying it?, and if not, can it be fixed and how can we explain this?, and if it's not even that good, what's really wrong and how can we tell the writer so that he'll do *better* next time?

And we do tell authors what's wrong (or more exactly, what we think is wrong); we use formula rejection for poetry, for poetry is (usually) too subjective for us to comment usefully; but for the rest, we try to be candid, bluntly honest, and therefore helpful. If you'd rather *not* be told what we think is wrong just say so, and we won't. Otherwise, well . . .

Consider these Rules:

1. Editors don't reject people; they just reject pieces of paper that have been typed on.

2. Never argue with a man who buys ink by the barrel.

We've been there; we *know* it feels as though the editor has rejected you,

your wife, your children, *and* your dog, as well as your entire writing career. But he *hasn't*; someone with delusions of extreme grandeur may think of his job as that of St. Peter, Rhadamanthus, all three Norns, and a college admissions officer; but it *isn't*. An editor cannot say that you are no good; he cannot even say that your writing is no good; *as an editor*, he can comment only on the specific pieces of paper that are before him. On *that*, his opinion is important, because if he liked that manuscript, he would pay you money to publish it.

In rejecting manuscripts, we do comment more than most editors do. For this, we get letters: most thank us for giving the writer some useful (even if painful) criticism; a few overreact abusively. Obviously, an abusive response to an editor isn't going to help with the next manuscript; less obviously, it really won't hurt very much either. You see, Rule One works both ways: since we're not rejecting people, then we try not to blame a manuscript for the antics of its author. Besides, it's more fun to use Rule Two on the author . . .

We might *publish* the abusive response.

What does irritate us, though, are the manuscripts whose authors quite ruined their chances by doing something very, very dumb . . . like spend-

ing thousands of dollars on a home computer system, and hundreds on word-processing programs for the computer, without spending tens of dollars on a book or two on writing fiction — or even spending the one dollar (basically a shipping and handling charge) we ask for our small booklet on manuscript format and content.

Example: many word-processor programs offer justified right margins — that is, the right margin is an even, straight line, just like typeset copy. But editors do *not* like manuscripts to be prepared that way; they would rather have ragged right margins and even spacing between words.

Example: many authors, with or without computers, will carefully break words in the proper places at the ends of lines so that right margin will look less ragged. But — for whom are they making it look this way? Editors do *not* like words to be broken that way, and doing so is the mark of someone who hasn't bothered to look up — or ask — what the editors really want.

And for a *really* expensive example: many computer-system buyers discover that dot-matrix printers are fast, quiet, and cheap. If they neglect to discover that most editors refuse to

read any dot-matrix copy (save for the very high quality kind that doesn't even look like dot-matrix printing), that "cheap" printer will be worthless to them.

Instead — find out if your computer's output is acceptable to editors *before* you spend money. Read our booklet; see your local library or bookstore for books on writing fiction. Try the magazines *The Writer* or *Writer's Digest*. And remember: it is far smarter to ask stupid questions than to do stupid things; it's easier for us to answer a straightforward question (but do include a return envelope, addressed and stamped, for the reply) than to read a whole manuscript that was done wrong from the start.

A final note: for those of you who regularly read this magazine, and thus can — *and do* — keep up with any changes in our editorial address, you may send manuscripts directly to us at *Amazing™ SF Stories*, PO Box 8243, Philadelphia PA 19101-8243. We do *not* want this address published elsewhere, nor do we want you to use this address unless you continue to check current issues of the magazine for any more recent changes.

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GATEWAY III — Heechee Rendezvous

by Frederik Pohl

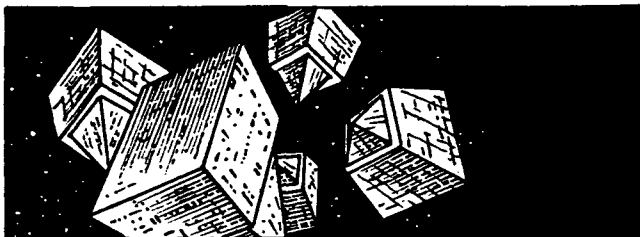
Art: Jack Gaughan



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Since I am only a simple data-retrieval system named Albert Einstein, you might not think I have feelings. I do. I have, in particular, a very deep love for my friend Robinette Broadhead. How is that possible? you ask. Well, I'm not really that simple a program. Borrowing from some found technology of those long-gone creatures called the Heechee, Robin's wife, Essie, had learned how to transfer the minds of deceased human beings into machine storage. From there it was only a small step to recreate, in me, all that research could find of the real mind and memories and attitudes of the original Albert Einstein. I don't like to boast. All the same, I am a **remarkable** triumph of human-Heechee technology. So I can share some human attitudes and emotions, especially love, even to some extent anger (although my prototype didn't have much of that, it seems) ... even fear. One of the things human beings feared most, when they thought of it, was those selfsame Heechee. Luckily for the human race, they didn't know much about the Heechee. Especially they didn't know what the Heechee themselves feared, that had caused them, half a million years ago, to retreat into a huge black hole at the core of our galaxy. Otherwise they would have been a lot more fearful than they were.

The other thing the human race didn't know was that the Heechee had come out. They sent a routine little probing expedition out of their black hole to see what was happening in the great outside universe, captained by a Heechee who, in their quaint nomenclature, was named Captain. The Heechee were capable of being scared, too, and what scared them most was how much human beings had learned from their abandoned artifacts. Human beings were now racing around the Galaxy in their abandoned old spacecraft. And that, Captain thought, would attract the attention of those from whom the Heechee themselves had run away and hid. At first Captain thought to hide again. Human beings had stumbled on a photon-sail spacecraft manned by a fairly unimportant race of slow-living creatures; that might lead the way to the Heechee hideout, so Cap-

tain and his crew kidnaped the ship and hid it, too, out of sight. It cost them. Captain's female, a crew member named Twice, died of overstrain in the process, and it was all in vain. The humans were still advertising themselves.

Meanwhile, my friend Robin had nearer cares. There were four of them. One was simply that he was growing old; his health was failing. I could share that concern although I, myself, am not susceptible to such things. The second was a restless, random violence on Earth, marked by brushfire wars and terrorism, as the poorer peoples of Earth saw the plenty that Heechee technology could produce for some, but they could not share. A reasoned worry, that, and one I could comprehend. The third I could also share, for it was the simple compassion of friendship. Robin's friend Audee Walthers, a pilot on one of the frontier planets, had a wife, Dolly, whom he loved. Unfortunately Dolly was too young, perhaps too immature, for Audee Walthers. There was a nasty piece of business named Wan, who chanced to be very rich because he had, through no virtue of his own, fallen heir to a great deal of Heechee technology. Dolly ran off with this Wan. Audee was desolate. He formed a temporary attachment with another pilot named Janie Yee-xing, but he was still heartsore over Dolly — and Robin understood his pain very well, because of his own fourth care. That one I could not share, for it was the pang of a lost love. Her name was Gelle-Klara Moynlin. Like Robin, she had dared explore the universe in those treacherous old Heechee ships that killed or maimed or marooned half their crews. Klara was lucky enough only to be marooned, but it was inside a black hole — and Robin (with some reason) had always felt that it might be his fault.

It was an old wound, a lingering guilt from decades earlier that might have been almost healed. But it came to life again. Nasty Wan, gypsying around the Galaxy in a stolen Heechee ship, armed with wondrous Heechee technology, accompanied by errant Dolly — found Klara. Found her and plucked her from her black hole. Took her and Dolly back to the human worlds, left Dolly there to take the punishment for his own many misfeasances and left again with Klara.

And Robin discovered this and went to find Dolly, in the hope that she could lead him to Klara. Strange, **human** behavior! It is this that I cannot share, neither in Robin nor in the non-human (but equally passionate) Heechee Captain, mourning over his lost love, Twice. But whether I could understand or not, my friend Robin was greatly troubled. He and his wife went after imprisoned Dolly; it is his story, and so I will let him tell it.

The High Pentagon

isn't exactly a satellite in geostationary orbit. It's five satellites in geostationary orbit. The orbits are not precisely identical, so that all five of these armored, pulse-hardened chunks of metal waltz around each other. First Alpha's on the outside and Delta's nearest the Earth, then they swing a while and it's Epsilon that's facing out and maybe Gamma that's inboard, swing your partners, do-si-do, and so on. Why, one might ask, did they do it that way instead of just building one big one? Well, one is answered, five satellites are five times as hard to hit as one satellite. Also, I personally think, because both the Soviet Orbit Tyuratam and the Peep-China command post are single structures. Naturally the U. S. of A. wanted to show that they could do the job better. Or at least different. It all dated from the time of the wars. At one time, they said, it had been the very latest in "defense." Its huge nuke-fueled lasers were supposed to be able to zap any enemy missile from fifty thousand miles away. Probably they indeed could — when they were built — and for maybe three months after that, until the other fellows began using the same pulse-hardening and radar-decoy tricks and everybody was back at "Go." Unfortunately they all "went," but that's a whole other story.

So we never saw four-fifths of the Pentagon, except on our screens. The hunk they vectored us in on was the one that held crew quarters, administration — and the brig. That was Gamma, sixty thousand tons of metal and meat, about the size of the Great Pyramid and pretty much the same shape, and we found out right away that, no matter how open-handed General Manzbergen had been back on Earth, here in orbit we were about as welcome as a cold sore. For one thing, they kept us waiting for permission to unseal. "Suppose they must have been hard-hit in the minute madness," Essie speculated, scowling at the viewscreen, which showed nothing but the metal flank of Gamma.

"That's no excuse," I said, and Albert chipped in his two cents' worth:

"They were not hit so hard but that they were ready to hit much harder, I'm afraid. I have seen too much war; I do not like such things." He was fingering his Two Per Cent button and acting, for a hologram, rather nervous. What he said was true enough. A couple weeks earlier, when the terrorists had zapped everybody from space with their TPT, the whole station had gone crazy for a minute. Literally one minute; it was no more than that. And a good thing it was no longer, because in that one minute eight of the eleven duty stations that had to be manned in order to aim a proton beam at terrestrial cities were in fact manned. And raring to go.

That wasn't what was troubling Essie. "Albert," she said, "do not play games that make me nervous. You have not in fact seen any war, ever. You are only a program."

He bowed. "As you say, Mrs. Broadhead. Please? I have just received permission for us to unseal and you may enter the satellite."

So we entered, with Essie looking thoughtfully over her shoulder at the program we left behind. The ensign waiting for us did not seem enthusiastic. He ran his thumb over the ship's data chip as though he were trying to make sure the magnetic ink didn't come off. "Yeah," he said, "we got a signal about you. Only thing, I'm not sure if the brigadier can see you now, sir."

"It was not a brigadier we wished to see," Essie explained sweetly, "simply a Mrs. Dolly Walthers, whom you are holding here."

"Oh, yes, mam. But Brigadier Cassata has to sign your pass and right now we're all pretty busy." He excused himself to whisper into a phone, then looked happier. "If you'll just come with me, sir and mam," he said, and conducted us out of the port at last.

You lose the habit of maneuvering in low-G or zero-G if you don't practice it, and I was long out of practice. Also I was rubbernecking, being for the first time in a very large human-made space artifact. It seemed more alien than anything Heechee. No familiar blue glow, just painted steel. No spindle-shaped chamber at the core. No prospectors looking sick-scared or triumphant, no museum collections of bits and pieces of Heechee technology found here and there around the Galaxy. What there was plenty of was military personnel in skintights and, for some reason, crash helmets. The curiosest thing of all was that, although every one of them wore a weapons holster, all the holsters were empty.

I slowed down to point this out to Essie. "Looks like they don't trust their own people," I commented.

She shook me by the collar and pointed ahead, where the ensign was waiting. "Do not talk against hosts, Robin, not until are behind their backs, anyway. Here. This must be place."

Not a minute too soon; I was beginning to run out of breath with the exertion of pulling myself along a zero-G corridor. "Right inside, sir and mam," said the ensign hospitably, and of course we did as he said.

But what was inside the door was only a bare room with a couple of sit-down lashings around the walls, and nothing else. "Where's the brigadier?" I demanded.

"Why, sir, I told you we're all pretty busy right now. He'll see you soon's he can." And, with a shark's smile, he closed the door on us; and the interesting thing about that door, we both perceived at once, was that there was no knob on the inside surface.

Like everybody, I have had fantasies of being arrested. You're busy with your life, herding fish or balancing somebody's books or writing the

great new symphony, and all of a sudden there's a knock on the door. "Come along without resistance," they say, and snap the cuffs on and read you your rights, and the next thing you know you're in a place like this. Essie shivered. She must have had the same fantasies, though if ever there was a blameless life it was hers. "Is silly," she said, more to herself than me. "What a pity there is no bed here. Could put the time to use."

I patted her hand. I knew she was trying to cheer me up. "They said they were busy," I reminded her.

So we waited.

And half an hour later, without warning, I felt Essie stiffen under the hand I had on her shoulder, and the expression on her face was suddenly raging and mad; and I felt a quick, hurting, furious jolt to my own mind —

And then it was gone, and we looked at each other. It had only lasted a few seconds. Long enough to tell us just what it was they had been busy about, and why they had carried no weapons in their holsters.

The terrorists had struck again — but only a glancing blow.

When at last the ensign came back for us he was gleeful. I do not mean that he was friendly. He still didn't like civilians. He was happy enough to have a big smile on his face and hostile enough not to tell us why. It had been a long time. He didn't apologize, just conducted us to the commandant's office, grinning all the way. And when we got there, pastel-painted steel walls with a West Point holoscape on the wall and a sterling silver smokeeater trying vainly to keep up with his cigar, Brigadier Cassata was smiling, too.

There were not very many good explanations possible for all this secret jollity, so I took a long leap in the dark and landed on one of them. "Congratulations, Brigadier," I said politely, "on capturing the terrorists."

The smile flickered, but came back. Cassata was a small man, and pudgier than the military medics must have preferred; his thighs bulged out at the hems of his olive-drab shorts as he sat on the edge of his desk to greet us. "As I understand it, Mr. Broadhead," he said, "your purpose here is to interview Mrs. Dolly Walthers. You may certainly do that, considering the instructions I have received and the fact that we owe you thanks, but I can't answer your questions about security matters."

"I didn't ask any," I pointed out. Then, as I felt Essie's why-you-antagonize-this-creep? glare burning the back of my neck, I added, "Anyway, it's very kind of you to let us do it."

He nodded, obviously agreeing that he was very kind. "I'd like to ask you a question, though. Would you mind telling me why you want to see her?"

Essie's glare was still burning, which kept me from telling him that I

did mind. "Not at all," I lied. "Mrs. Walthers spent some time with a very good friend of mine, whom I am anxious to see. We're hoping she can tell us how to get in touch with, uh, with my friend."

It was not a lot of use skipping the gender-revealing pronoun. They had surely interrogated the Hell out of poor Dolly Walthers and knew that there were only two people I could mean, and of the two it was not at all likely that I would call Wan a "friend." He looked at me in a puzzled way, then at Essie, then said, "Walthers is certainly a popular young lady. I won't keep you any longer." And he turned us over to the ensign for the conducted tour.

Dolly Walthers was a child-sized woman with a childish, high-pitched voice and bad teeth. She was not at her best. She was scared, fatigued, angry, and sullen.

And I was not all that much better. I was wholly, disconcertingly aware that this young woman before me had just spent a couple of weeks in the company of the love of my life — or one of the loves of my life — in the top two, anyway. I say this lightly enough. It wasn't a light thing. I didn't know what to do, and I didn't know what to say.

"Say hello, Robin," Essie instructed.

"Miz Walthers," I said obediently, "hello. I'm Robin Broadhead."

She had manners left. She put out her hand like a good child. "I know who you are, Mr. Broadhead, even not counting that I met your wife the other day." We shook hands politely and she flashed a hint of a sad smile. It wasn't until sometime later, when I saw her Robinette Broadhead puppet, that I knew what she had been smiling at. But she looked puzzled, too. "I thought they said there were four people who wanted to see me," she said, peering past the stolid ensign in search of the others.

"Is just the two of us," said Essie, and waited for me to speak.

But I didn't speak. I didn't know what to say. I didn't know what to ask. If it had been just Essie there, perhaps I could have managed to tell Dolly Walthers what Klara had meant to me and ask for her help — any kind of help. Or if just the ensign, I could have ignored him like any other piece of furniture. Or I think I could — but they were both there, and I stood tongue-tied, while Dolly Walthers gazed at me curiously, and Essie expectantly, and even the ensign turned to stare.

Essie sighed, an exasperated and compassionate sound, and made her decision. She took charge. She turned to Dolly Walthers. "Dolly," she said briskly, "must excuse my husband. Is quite traumatic for him, for reasons too complex to explain just now. Must excuse me also, please, for allowing MPs to take you away; I also have some trauma for related reasons. Important thing is what we do now. That will be as follows: First we secure your release from this place. Second, we invite your company and help in voyage to locate Wan and Gelle-Klara Moynlin. You agree?"

It was all happening too fast for Dolly Walthers, too. "Well," she said, "I —"

"Good," said Essie, nodding. "We go to arrange this. You, ensign! Take us back to our ship, *True Love*, at once, please."

The ensign opened his mouth, scandalized; but I got in ahead of him. "Essie, shouldn't we see the brigadier about that?"

She squeezed my hand and gazed at me. The gaze was compassionate. The squeeze was a shut-silly-mouth, -Robin! warning that nearly broke my knuckles. "Poor lamb," she said apologetically to the officer, "has just had major surgery. Is confused. To ship for his medicine, and quickly!"

When my wife Essie is determined to do something, the way to get along with her is to let her do it. What she had in mind I did not know, but what I should do about it was very clear. I assumed the demeanor of an elderly man dazed by recent surgery, and let her guide me in the wake of the ensign down the corridors of the Pentagon.

We didn't move very fast, because the corridors of the Pentagon were pretty busy. The ensign halted us at an intersection while a party of prisoners marched past. For some reason they were clearing out an entire block of cells. Essie nudged me, and pointed to the monitors on the wall. One set of them were no more than signposts, *Commissary 7, Enlisted Personnel Latrines, Docking V* and so on. But the other —

The other showed the docking area, and there was something big coming in. Great, hulking, human-built; you could tell it was Earth-built rather than Heechee at the first glance. It wasn't just the lines, or the fact that it was constructed of gray steel rather than Heechee-metal blue. The proof lay in the mean-looking projectile weapons that poked their snouts out of its smooth exterior.

The Pentagon, I knew, had lost six of those ships in a row, trying to adapt the Heechee faster-than-light drive to human ships. I couldn't complain about that; it was from their mistakes that the design for the *True Love* had benefited. But the weapons were not pleasant to see. You never saw one on a Heechee vessel.

"Come on," snapped the ensign, glaring at us. "You're not supposed to be here. Let's move it." He started along a relatively empty corridor, but Essie slowed him down.

"Is faster this way," she said, pointing to the **Docking** sign.

"Off limits!" he snapped.

"Not for good friend of Pentagon who is unwell," she replied, and tugged at my arm; and we headed for the densest, noisiest knots of people. There are secrets within secrets in Essie, but this one clarified itself in a moment. The commotion had been the captured terrorists being brought in from the cruiser, and Essie had just wanted to get a look at them.

The cruiser had intercepted their stolen ship just as it was coming out

of FTL. They shot it up. Apparently there had been eight terrorists on board — in a Heechee ship where the normal five persons was a crowd! Three of them had survived to become prisoners. One was comatose. One was missing a leg, but conscious. The third one was mad.

It was the mad one that was attracting all the attention. She was a young black girl — from Sierra Leone, they said — and she was screaming incessantly. She wore a strait-jacket. By the look of it she had been kept in it for a very long time, for the fabric was stained and stinking, her hair was matted, her face was cadaverous. Somebody was calling my name, but I pressed forward along with Essie to get a better look. “Is Russian she is saying,” said Essie, her brows furrowing, “but is not very good. Georgia accent. Very strong. Says she hates us.”

“I could have figured that out,” I said. I had seen enough. When the ensign got through the crowd, yelling furious orders for people to get out of the way, I let him tug me back; and then I heard my name called again.

So it wasn’t the ensign? In fact, it wasn’t a man’s voice at all. It came from the knot of prisoners being moved out of their cells, and I saw who it was. The Chinese girl. Janie something. “Good God,” I said to the ensign, “what have you arrested her for?”

He rasped, “That is a military matter and none of your business, Broadhead. Come on! You don’t belong here!”

There was no point in arguing with a man who had made up his mind. I didn’t ask him again. I just walked over to the line and asked Janie. The other prisoners were all female, all military personnel, no doubt in for overstaying a furlough or punching somebody like the ensign in the mouth — all good people, I was sure. They were quiet, listening. “Audee wanted to come up here because they had his *wife*,” she said, with a look on her face as though she were saying “his case of tertiary syphilis.” “So we took a shuttle up, and as soon as we got here they stuck us in the brig.”

“Now, Broadhead,” shouted the ensign, “that’s the last straw. You come on out of there or you’re under arrest yourself!” And his hand was on the holster which once more contained a sidearm. Essie sailed by, smiling politely.

“Is now no more need for concern, ensign,” she said, “for there is *True Love*, waiting for us.” She pointed to the entrance to our ship. “So we are out of hair now. Remains only to fetch brigadier here to settle remaining questions.”

The ensign goggled. “Mam,” he stuttered, “mam, you can’t get the brigadier here!”

“Of course can! Husband requires medical treatment, therefore must be here to receive. Brigadier Cassata is courteous man, right? West Point? Many courses in deportment, courtesy, covering coughs and sneezes? And also please tell brigadier is excellent bourbon here which poor sick husband requires assistance to dispose of.”

The ensign stumbled away hopelessly. Essie looked at me and I looked at Essie. "Now what?" I asked.

She smiled and patted my head. "First I instruct Albert about bourbon — and other things," she said, turning to deliver a couple of quick sentences in Russian, "and then we wait for brigadier to show up."

It didn't take long for the brigadier to arrive, but by the time he had got there I had almost forgotten him. Essie was engaged in a lively chat with the guard the ensign had left, and I was thinking. What I was thinking about mostly, for a change, was not Klara but the mad African woman and her almost as mad associates. They scared me. Terrorists scared me. In the old days there was a P.L.O. and an I.R.A. and Puerto Rican nationalists and Serbian secessionists and German and Italian and American rich kids asserting their contempt for their daddies — oh, lots of terrorists, all sizes, all kinds — but they were all separate. The fact that they had got together scared me. The poor and the furious had learned to join their rages and resources, and there was no question at all that they could make the world listen. Capturing one ship would not stop them, it would only make their efforts bearable for a while — or almost bearable.

But to solve their problem — to ease their rage and supply their needs — more was needed. The colonization of worlds like Peggys Planet was the best and maybe the only answer, but it was *slow*. The transport could take 3800 poor people to a better life each month. But each month something like a quarter of a million new poor people were being born, and the fatal arithmetic was easy to do:

250,000

- 3,800

246,200

new poor people to deal with each month. The only hope was new and bigger transports, hundreds or thousands of them. A hundred would keep us even with the present level of misery. A thousand would cure it once and for all — but where were the thousand big ships to come from? It had taken eight months to build the *True Love*, and a lot more of my money than I had really intended — what would it cost to build something a thousand times as big?

The brigadier's voice took my mind off these reflections. "It is," he was saying, "flatly impossible! I let you see her because I was asked to. To take her away with you is out of the question!" He glowered at me as I joined them, taking Essie's hand.

"Also," she said, "is question of male Walthers and Chinese woman, we wish them also."

"We do?" I asked, but the brigadier wasn't listening to me.

"What else, for God's sake?" he demanded. "You wouldn't like me to turn over my section of the Pentagon? Or give you a cruiser or two?"

Essie shook her head politely. "Our ship is more comfortable, thank you."

"Jesus!" Cassata wiped his brow and allowed Essie to lead him into the main lounge for the promised bourbon. "Well," he said, "there's no real charge against Walthers and Yee-xing. They had no right coming up here without clearance, but if you take them away again we can forget that one."

"Splendid!" Essie cried. "Remains now only other Walthers!"

"I could not possibly take the responsibility," he began, and Essie did not let him finish.

"Certainly not! One understands that, of course. So we will refer to higher authority, right? Robin! Call General Manzbergen. Do here, so will be no annoying record to possibly embarrass, all right?"

There is no use arguing with Essie when she is in such a mood, and besides I was curious to see what she was up to. "Albert," I called. "Do it, please."

"Sure, Robin," he said obligingly, voice only; and in a moment the screen lit up, and there was General Manzbergen at his desk. "Morning, Robin, Essie," he said genially. "I see you've got Perry Cassata there — congratulations to all of you!"

"Thank you, Jimmy," said Essie, looking sidewise at the brigadier, "but is not what we called about, please."

"Oh?" He frowned. "Whatever it is, do it fast, all right? I've got a top meeting coming up in ninety seconds."

"Take less than that, General dear. Merely please instruct Brigadier Cassata to turn over Dolly Walthers to us."

Manzbergen looked puzzled. "For what?"

"So can use her to locate missing Wan, General dear. Has TPT, you know. Much in everyone's interest to make him give it back."

He grinned fondly at her. "Minute, honey," he said, and bent to a hushphone.

The brigadier might have been rushed, but he was on his toes. "There's a lag," he pointed out. "Isn't this zero-speed radio?"

"Is burst transmission," Essie lyingly explained. "Have only small vessel here, not much power" — another lie — "so must conserve communications energy — ah, here is general again!"

The general pointed toward Cassata. "It's authorized," he barked. "They're trustworthy, we owe them a favor — and they might be able to save us a pack of future trouble. Give them whoever they want, on my authority. Now, for God's sake, let me get to my meeting — and don't call me again unless it's World War Four!"

So the brigadier went away, shaking his head; and pretty soon the MPs brought Janie Yee-xing to us, and a minute later Audee Walthers, and

quite a while after that Dolly Walthers. "Nice to see you all again," said Essie, welcoming them aboard. "Am sure you have much to talk over among you, but first let us get away from this wicked place. Albert! Move it, please?"

"Right, Mrs. Broadhead," sang Albert's voice. He didn't bother with materializing in the pilot seat, he simply walked in a door and leaned against the lintel, smiling at the company.

"Will introduce later," said Essie. "This is good friend who is computer program. Albert? Are now safely away from Pentagon?"

He nodded, twinkling. Then before my eyes he turned from an elderly man with pipe and baggy sweater to the leaner, taller, uniformed and medaled Chief of Staff General James P. Manzbergen. "Right you are, honey," he cried. "Now let's get our asses into FTL before they find out we foxed them!"



Who
sleeps
with
whom?

Ah, that was the question! We had five passengers, and only three staterooms to put them in. The *True Love* had not been planned for very many guests, and especially when the guests did not come pre-sorted in pairs. Should we put Audee in with his wedded wife, Dolly? Or with his most recent bedmate, Janie Yee-xing? Put Audee by himself and the two women together? — and what would they do to each other if we did? It was not that Janie and Dolly were hostile to each other so much as that Audee seemed unaccountably hostile to both of them. "He cannot make up his mind which he should be true to," said Essie wisely, "and is a man who wishes to be true to a woman, is Audee."

Well, I understood that well enough, and even understood that more of our passengers than one suffered that problem.

But there is a word in that statement that did not apply to me, and it is the word "suffered." You see, I wasn't suffering: I was enjoying myself. I was enjoying Essie, too, because the way we solved the problem of assigning accommodations was to walk away from it. Essie and I retired to

Captain's Quarters and locked the door. We told ourselves that the reason we did was to let our three guests sort things out among themselves. That was a good reason. God knows they needed time to do that, because the interpersonal dynamics latent among the three of them were enough to explode a star; but we had other reasons, too, and the biggest of them was so that we could make love.

And so we did. Enthusiastically. With great joy. You would think that after a quarter of a century — at our advanced ages; and making allowances for familiarity and boredom and the fact that there are, after all, just so many mucous surfaces to rub against and a finite number of appurtenances to rub them with — there would be very little incentive for us to do that. Wrong. We were motivated as Hell.

Perhaps it was because of the relatively cramped quarters on the *True Love*. Locking ourselves into our private cabin with its anisokinetic bed gave the affair a spice of teen-age fooling around on the porch, with Daddy and Mommy only a window-screen away. We giggled a lot as the bed pushed us about in ingenious ways — but suffer? Not a bit of it. I hadn't forgotten Klara. She popped into my mind over and over, often at very personal times.

But Essie was there on the bed with me, and Klara was not.

So I lay back on the bed, twitching a little now and then to feel how the bed would twitch back, and how it would twitch Essie, cuddled close into my side, and she would twitch a little — it was a little like playing three-cushion billiards, but with more interesting pieces — and thought, calmly and sweetly, about Klara.

At that moment I felt quite certain that everything would work out. What after all was wrong? Only love. Only that two people loved each other. There was nothing wrong in that! It was a complication, to be sure, that one of that particular two, e.g., me, might be also a part of another two who loved each other. But complications could be resolved — somehow or other — couldn't they? Love was what made the universe go around. Love made Essie and me linger in Captain's Quarters. Love was what made Audee follow Dolly to the High Pentagon; and a kind of love was what made Janie go with him; and another kind of love, or maybe the same kind, made Dolly marry him in the first place, because one of the functions of love is surely to give a person another person to organize his or her life around. And off in one stretch of the great, gassy, starry wastes (though at that moment I did not yet know it) Captain was mourning for a love; and even Wan, who had never loved anyone but himself, was in fact scouring that universe for someone to aim his love at. You see how it works? It is love that is the motivator.

"Robin?" said Essie drowsily to my collarbone. "Did that very well. My compliments."

And of course, she too was talking about love, although in this case I

chose to accept it as a compliment to my skills in the demonstration of it. "Thank you," I said.

"Makes me ask question, though," she went on, drawing back to peer at me. "Are fully recovered? Gut in good shape? Two point four meters new tubing working well with old? Has Albert reported all well?"

"I feel just fine," I reported, as indeed I did, and leaned over to kiss her ear. "I only hope the rest of the world is going as well."

She yawned and stretched. "If you refer to vessel, Albert is quite capable of handling pilotage."

"Ah, yes, but is he capable of handling the passengers?"

She rolled over sleepily. "Ask him," she said.

So I called, "Albert? Come and talk to us." I turned to look at the door, curious to see how he would manage his appearance this time, through a tangible, real door that happened to be closed. He fooled me. There was a sound of Albert apologetically clearing his throat, and when I turned back he was sitting on Essie's dressing bench again, eyes bashfully averted.

Essie gasped and grabbed for the covers to shield her neat, modest breasts.

Now, that was a funny thing. Essie had never bothered to cover herself in front of one of her programs before. The funniest thing about it was that it did not seem strange at the time. "Sorry to intrude, my dear friends," said Albert, "but you did call."

"Yes, fine," said Essie, sitting up to look at him better — but with the bedspread still clutched to her. Perhaps by then her own reaction had struck her as odd, but all she said was, "So. Our guests, how are they?"

"Very well, I should say," Albert said gravely. "They are having a three-sided conversation in the galley. Captain Walthers is preparing sandwiches, and the two young women are helping."

"No fights? No eyes scratched out?" I asked.

"Not at all. To be sure, they are rather formal, with many **excuse mes** and **pleases** and **thank yous**. However," he added, looking pleased with himself, "I do have a report for you on the sailship. Would you like to have it now? Or — it occurs to me — perhaps you would like to join your guests, so that you may all hear it at once."

Reaching behind her for a pillow, Essie took aim and threw it right through Albert, to bounce harmlessly against the cosmetics beyond him. "Great funny program, get out, please! Since are so human, cannot permit to observe me unclothed!" And he allowed himself, this time, to simply wink away, while Essie and I hugged each other and laughed. "So get dressed now," she ordered at last, "so we can find out about sailship in mode satisfactory to computer program. Laughter is sovereign medicine, right? In that case have no further fears for your health, dear Robin, so well rejoiced a body will surely last forever!"

We headed for the shower, still chuckling — unaware that, in my case,

“forever” at that moment amounted to eleven days, nine hours, and twenty-one minutes.

We had never built into the *True Love* a desk for Albert Einstein, particularly not one with his pipe marking his place in a book, a bottle of Skrip next to a leather tobacco jar and a blackboard behind him half covered with equations. But there it was, and there he was, entertaining our guests with stories about himself. “When I was at Princeton,” he declared, “they hired a man to follow me around with a notebook, so that if I wrote something on a blackboard he would copy it down. It was not for my benefit, but for theirs — otherwise, you see, they were afraid to erase the blackboards!” He beamed at our guests, and nodded genially to Essie and me, standing hand in hand at the doorway to the main lounge. “I was explaining, Mr. and Mrs. Broadhead, something of my history to these people, who perhaps have not really heard of me although I was, I must say, quite famous. Did you know, for example, that since I disliked rain, the administration at Princeton built a covered passage which you can still see, so that I could visit my friends without going outdoors?”

At least he wasn’t wearing his general’s face or Red Baron silk scarf, but he made me just a little uncomfortable. I felt like apologizing to Audee and his two women; instead I said, “Essie? Don’t you think these reminiscences are getting a bit thick?”

“Is possible,” she said thoughtfully. “Do you wish him to stop?”

“Not really stop. He’s much more interesting now, but if you could just turn down the gain on the personalized-identity database, or twist the potentiometer on the nostalgia circuits —”

“How silly you are, dear Robin,” she said, smiling with forgiveness. Then she commanded: “Albert! Cut out so much gossip, Robin doesn’t like it.”

“Of course, my dear Semya,” he said politely. “No doubt you wish to hear about the sailship, in any case.” He stood up behind his desk — that is, his holographic but physically non-existent image rose behind his equally non-existent hologram of a desk; I had to keep reminding myself of that. He picked up a blackboard eraser and began to wipe away the chalk, then recollected himself. With an apologetic glance at Essie, he reached for a switch on the desk instead. The blackboard vanished. It was replaced by the familiar pebbly greeny-gray surface of a Heechee ship’s viewscreen. Then he pressed another switch, and the pebbly gray disappeared, replaced this time by a view of a star chart. That was realistic, too — all it took to convert any Gateway ship’s screen to a usable picture was a simple bias applied to the circuits (though a thousand explorers had died without finding that out). “What you see,” he said genially, “is the place where Captain Walthers located the sailship, and as you see there is nothing there.”

Walthers had been sitting quietly on a hassock before the imitation fireplace, as far as possible from either Dolly or Janie — and each of them was as far as possible from the other, and also very quiet. But now Walthers spoke out, stung. “Impossible! The records were accurate! You have the data!”

“Of course they were accurate,” Albert soothed, “but, you see, by the time the scout ship arrived there the sailship was gone.”

“It couldn’t have gone very far if its only drive was from starshine!”

“No, it could not. But it was absent. However,” Albert said, beaming cheerfully, “I had provided for some such contingency. If you remember, my reputation — in my former self, I mean — rested on the assumption that the speed of light was a fundamental constant. Subject,” he added, blinking tolerantly around the room, “to certain broadenings of context which we have learned from the Heechee. But the speed, yes, is always the same — nearly three hundred thousand kilometers per second. So I instructed the drone, in the event that the sailship was not found, to remove itself a distance of three hundred thousand kilometers times the number of seconds since the sighting.”

“Great clever egotistical program,” Essie said fondly. “That was some smart pilot you hired for scout ship, right?”

Albert coughed. “It was an unusual ship, as well,” he said, “since I did foresee that there might be special needs. I fear the expense was rather high. However, when the ship had reached the proper distance, this is what it saw.” And he waved a hand, and the screen showed that multi-winged gossamer shape. No longer perfect, it was folding and contracting before our eyes. Albert had speeded up the action as seen from the scout, and we watched the great wings roll themselves up . . . and disappear.

Well. What we saw, you have already seen. The way in which you were advantaged over us was that you knew what you were seeing. There we were, Walthers and his harem, Essie and me. We had left a troublesome human world to chase after a troublesome puzzle, and there we saw the thing we were aiming at being — being *eaten* by something else! It looked exactly that way to our shocked and unprepared eyes. We sat there frozen, staring at the crumpled wings and the great glistening blue sphere that appeared from nowhere to swallow them.

I became aware that someone was chuckling gently, and was shocked for the second time when I realized who it was.

It was Albert, sitting now on the edge of his desk and wiping away a tear of amusement. “I do beg your pardon,” he said, “but if you could see your *faces*.”

“Damn great egotistical program,” Essie grated, no longer fondly, “stop crap immediately. What is going on here?”

Albert gazed at my wife. I could not quite decipher his expression: the look was fond, and tolerant, and a great many other things that I did not

associate with a computer-generated image, even Albert's. But it was also uneasy. "Dear Mrs. Broadhead," he said, "if you did not wish me to have a sense of humor you should not have programmed me so. If I have embarrassed you I apologize."

"Follow instructions!" Essie barked, looking baffled.

"Oh, very well. What you have seen," he explained, turning pointedly away from Essie to lecture to the group, "is what I believe to be the first known example of an actual Heechee-manned operation in real time. That is, the sailship has been abducted. Observe this smaller vessel." He waved a negligent hand, and the image spun and flowed, magnifying the scene. The magnification was more than the resolution of the scout ship's optics were good for, and so the edge of the sphere became pebbly and fuzzy.

But there was something behind it.

There was something that moved slowly into eclipse behind the sphere. Just as it was about to disappear Albert froze the picture, and we were looking at a blurry, fish-shaped object, quite tiny, very poorly imaged. "A Heechee ship," said Albert. "At least, I have no other explanation."

Janie Yee-xing gave a choking sound. "Are you sure?"

"No, of course not," said Albert. "It is only a theory as yet. One never says 'yes' to a theory, Miss Yee-xing, only 'maybe,' for some better theory will surely come along and the one that has seemed best until then will get its 'no.' But my theory is that the Heechee have decided to abduct the sailship."

Now, get the picture. Heechee! Real ones, attested to by the smartest data-retrieval system anyone had ever encountered. I had been looking for Heechee, one way or another, for two-thirds of a century, desperate to find them and terrified that I might. And when it happened the thing uppermost in my mind was not the Heechee but the data-retrieval system. I said, "Albert, why are you acting so funny?"

He looked at me politely, tapping his pipestem against his teeth. "In what way 'funny,' Robin?" he asked.

"Damn it, come off it! The way you act! Don't you —" I hesitated, trying to put it politely — "Don't you know you're just a computer program?"

He smiled sadly. "I do not need to be reminded of that, Robin. I am not real, am I? And yet the reality that you are immersed in is one for which I do not care."

"Albert!" I cried, but he put up his hand to quiet me.

"Allow me to say this," he said. "For me reality is, I know, a certain large quantity of parallel-processed on-off switches in heuristic conformations. If one analyzes it, it becomes only a sort of trick one plays on the viewer. But for you, Robin? Is reality for an organic intelligence very

different? Or is it merely certain chemical transactions which take place in a kilogram of fatty matter which has no eyes, no ears, no sexual organs? Everything that it knows it knows by hearsay, because some perceptual system has told it so. Every feeling it has comes to it by wire from some nerve. Is it so different between us, Robin?"

"Albert!"

He shook his head. "Ah," he said bitterly, "I know. You cannot be deceived by my trick, because you know the trickster — she is here among us. But aren't you deceived by your own? Should I not be granted the same esteem and tolerance? I was quite an important man, Robin. Held in high regard by some very fine persons! Kings. Queens. Great scientists, and such good fellows they were. On my seventieth birthday they gave me a party — Robertson and Wigner, Kurt Goedel, Rabi, Oppenheimer —" He actually wiped away an actual tear . . . and that was about as far as Essie was willing to let him go.

She stood up. "My friends and husband," she said, "is obviously some severe malfunction here. Apologize for this. Must pull out of circuit for complete downcheck, you will excuse, please?"

"It isn't your fault, Essie," I said, as kindly as I could, but she didn't take it kindly. She looked at me in a way I hadn't seen from her since we first began dating and I told her about all the funny jokes I used to play on my psychoanalysis program, Sigfrid von Shrink. "Robin," she said coldly, "is all too much talk about fault and guilt. Will discuss later. Guests, must borrow my workroom for a time. Albert! Present yourself there at once for debugging!"

So there I was. I didn't want to leave them alone. I tried to remember how to be gracious when I didn't have a fallback position: "Would you like a drink?" I asked jovially. "Something to eat? There are some good programs to watch, if Essie hasn't killed the circuits so she can deal with Albert —"

Janie Yee-xing interrupted me with a question. "Where are we going, Mr. Broadhead?"

"Well," I said, beaming — jovial; good host; try to make the guests feel at ease, even when they ask you a perfectly good question that you haven't thought of an answer for because you've been thinking about a lot of more urgent things — "I guess the question is, where would you like to go? I mean, it looks like there's no point in chasing after the sailship."

"No," Yee-xing agreed.

"Then I suppose it's up to you. I didn't think you'd want to stay in the guardhouse —" reminding them that I'd done them all a favor, after all.

"No," Yee-xing said again.

"Back to the Earth, then? We could drop you at one of the loop points. Or Gateway, if you like. Or — let's see, Audee, you're from Venus in the

first place, right? Do you want to go back there?"

It was Walthers's turn to say, "No." He left it at that. I thought it was very inconsiderate of my guests to give me nothing but negatives when I was trying to be hospitable to them.

Dolly Walthers bailed me out. She raised her right hand, and it had one of those hand puppets of hers on it, the one that was supposed to look like a Heechee. "The trouble is, Mr. Broadhead," she said, not moving her lips, in a syrupy, snaky kind of voice, "none of us have *any* place much to go to."

Since that was obviously true, nobody seemed to have anything to say to it. Then Audee stood up. "I'll take that drink now, Broadhead," he growled. "Dolly? Janie?"

It was obviously the best idea any of us had had in some time. We all agreed, like guests arriving too early at a party, finding something to do so we would not obviously be doing nothing.

There were things to do, and the biggest of them in my mind was not to be cordial to my company. That biggest thing wasn't even trying to assimilate the fact that we had (perhaps) seen an actual, operating Heechee vessel with Heechee inside it. It was my gut again. The doctors said I could lead a normal life. They hadn't said anything about one as abnormal as this, so I was feeling my age and frailty. I was glad to take my gin and water and sit down, next to the make-believe fireplace with its make-believe flames, and wait for someone else to carry the ball.

Who turned out to be Audee Walthers. "Broadhead, I appreciate your getting us out of stir, and I know you've got things of your own to do. I suppose the best thing is for you to set all three of us down in the handiest place you can find and go about your business."

"Well, there are lots of places, Audee. Isn't there one you'd like better than another?"

"What I would like," he said, "what I think we would all like, is to have a chance to figure out what we want to do by ourselves. I guess you've noticed we've got some personal problems that need to get worked out." That is not the kind of statement you want to agree to, and I certainly couldn't deny it, so I just smiled. "So what we need is a chance to get off by ourselves and talk about them."

"Ah," I said, nodding. "I guess we didn't give you enough time, when Essie and I left you alone?"

"You left us alone. Your friend Albert didn't."

"Albert?" It had never occurred to me that he would present himself to guests, especially without being invited.

"All the time, Broadhead," said Walthers bitterly. "Sitting right where you are now. Asking Dolly a million questions."

I shook my head and held out my glass for a refill. It probably wasn't a good idea, but I didn't have any ideas that I thought were good. When I

was young and my mother was dying — because she couldn't afford medical care for both of us, guilt, guilt, guilt, and decided to get it for me — there was a time when she didn't recognize me, didn't remember my name, talked to me as though I were her boss or the landlord or some guy she'd dated before she married my father. A bad scene. It was almost worse to have her that way than to know she was dying: a solid figure crumbling before my eyes.

The way Albert was crumbling now.

"What kind of questions did he ask?" I asked, looking at Dolly.

"Oh, about Wan," she said, fiddling with the hand puppets but speaking with her own voice — though still without moving her lips much. "About where he was going, what he was doing. Mostly he wanted me to show him all the objects Wan was interested in on the charts."

"Show me," I said.

"I can't run that thing," she said peevishly, but Janie Yee-xing got up and was at the controls before she finished talking. She touched the display board, frowned, punched out a combination, scowled and turned back to the rest of us.

"Mrs. Broadhead must have locked it when she took your pilot out of the circuit," she said.

"Anyway," said Dolly, "it was all black holes, one kind or another."

"I thought there only was one kind," I said, and she shrugged. We were all clustered around the control seat, looking up at the viewplate, which was showing nothing but stars. "Damn him," I said.

And from behind us Albert's voice said frostily, "I am sorry if I have inconvenienced you, Robin."

We all turned like the figures in one of those old German town clocks. He was sitting on the edge of the seat I had just vacated, studying us. He looked different. Younger. Less self-assured. He was turning a cigar in his hands — cigar, not the pipe — and his expression was somber. "I thought Essie was working on you," I said — I am sure, irritably.

"She has finished, Robin. She is coming now, in fact. I think it is fair for me to say that she found nothing wrong — isn't that right, Mrs. Broadhead?"

Essie came in the door and stopped there. Her fists were on her hips, her eyes fastened on Albert. She didn't even look at me.

"Is right, program," she declared gloomily. "Have found no programming error."

"I am glad to hear that, Mrs. Broadhead."

"Do not be glad! Fact remains, you are one screwed-up program. So tell me, intelligent program with no fault in programming, what is next step?"

The hologram actually licked its lips nervously. "Why," said Albert hesitantly, "I would suppose you might want to check the hardware."

"Precisely," said Essie, and reached to pull his data fan out of its socket. I could swear I saw a fleeting expression of panic on Albert's face, the look of a man going under the anesthetic for major surgery. Then it disappeared with the rest of him. "Go on talking," she ordered over her shoulder, putting a loupe in her eye and beginning to scan the surface of the fan.

But what was there to talk about? We watched while she studied every corrugation of the fan. We drifted after her when, scowling, she took the fan to her workroom, and watched silently while she touched the fan with calipers and probes, plugged it in a test socket, pressed buttons, turned verniers, read results off the scales. I stood there rubbing my belly, which had begun to be unpleasant to me again, and Audee whispered, "What's she looking for?" But I didn't know. A nick, a scratch, corrosion, anything, and whatever it was she didn't find it.

She stood up, sighing. "Is nothing there," she said.

"That's good," I offered.

"That's good," she agreed, "because if was anything serious I could not fix here. But is also bad, Robin, because is obvious that buggery program is all bugged to Hell. Has taught me lesson in humility, this."

Dolly offered, "Are you sure he's busted, Mrs. Broadhead? While you were in the other room he seemed coherent enough. A little peculiar, maybe."

"Peculiar! Dolly-lady, all the time I check him you know what he's talking about? Mach's hypothesis. Missing mass. Black holes blacker than regular black holes. Would need to be a real Albert Einstein to understand — hey! What's that? Was talking to you?"

And when she had heard confirmation from the others she sat with her lips compressed in thought for some time. Then she shook herself. "Oh, Hell," she said dismally, "is no good to try to guess at problem. Is only one person who knows what is wrong with Albert, and that is Albert himself."

"And what if Albert won't tell you?" I asked.

"Is wrong question," she said, plugging in the fan. "Proper question is, 'What if Albert can't?' "

Albert looked all right — almost all right, anyway. He sat fumbling with his cigar in his favorite chair — which was also my own favorite seat, but at that moment I was not disposed to argue it with him. "Now, Albert," she said, her tone kindly but firm, "you know you are screwed up, correct?"

"A little aberrant, I think, yes," he said apologetically.

"Aberrant as all Hell, I think! Well, now here is what we do, Albert. First we ask you some simple factual questions — not about motivations, not about hard theoretical stuff, only questions which can be resolved by

objective facts. You understand?"

"Certainly I understand, Mrs. Broadhead."

"Right. First. Understand you were chatting with guests while Robin and I were in captain's chambers."

"That is correct, Mrs. Broadhead."

She pursed her lips. "Strikes me as unusual behavior, no? You were questioning them. Please tell us what questions were and your answers."

Albert shifted position uneasily. "Mostly I was interested in the objects Wan was investigating, Mrs. Broadhead. Mrs. Walthers was good enough to pick them out for me on the charts." He pointed at the display, and when we looked at it, sure enough, it was showing a series of charts, one after another. "If you look at them carefully," said Albert, pointing with his unsmoked cigar, "you will see that there is a definite progression. His first targets were simple black holes, which are indicated on the Heechee charts by these marks like fishhooks. Those are danger signs in the Heechee cartography."

"How you know this?" Essie demanded, and then — "no, purge that question. I assume you have good reason for this assumption."

"I do, Mrs. Broadhead. I have not been entirely forthcoming with you in this respect."

"Ha! Are getting somewhere! Now continue."

"Yes, Mrs. Broadhead. The simple black holes each had two check-marks. Then Wan investigated a naked singularity — a non-rotating black hole, in fact the one which Robin himself had such a terrible experience with many years ago. It was there that he found Gelle-Klara Moynlin." The image flickered, then showed the naked blue ghost star before returning to the chart. "This one has three fishhooks, meaning more danger. And finally" — wave of the hand, the picture altering to show a different section of the Heechee chart — "this is the one Mrs. Walthers identified for me as the one Wan was heading for next."

"I didn't say that!" Dolly objected.

"No, Mrs. Walthers," Albert agreed, "but you did say that he looked at it frequently, that he discussed it with his Dead Men and that it terrified him. I believe that it is the one he is aiming at."

"Very fine," applauded Essie. "Have passed first test admirably, Albert. Now will proceed with second part, without, this time, participation from audience," she added, glancing at Dolly.

"I'm at your service, Mrs. Broadhead."

"To be sure you are. Now. Factual questions: What is meant by term 'missing mass'?"

Albert looked uneasy, but he responded promptly enough. "The so-called 'missing mass' is that quantity of mass which would account for various galactic orbits, but has never been observed."

"Excellent! Now, what is 'Mach's hypothesis'?"

He licked his lips. "I am not really comfortable with speculative discussions about quantum mechanics, Mrs. Broadhead. I have difficulty in believing that God plays dice with the universe."

"Have not asked for belief! Keep to rules, Albert. Am only asking for definition of widely used technical term."

He sighed and shifted position. "Very well, Mrs. Broadhead, but allow me to put it in tangible terms. There is reason to believe that some sort of very large-scale tampering is going on with the expansion-contraction cycle of the universe. The expansion is being reversed. The contraction is being made to proceed, it would appear, to a single point — the same as before the Big Bang."

"And what was that?" Essie demanded.

He shuffled his feet. "I really am getting quite nervous, Mrs. Broadhead," he complained.

"But you can answer the question — in terms of what is generally believed."

"At what point, Mrs. Broadhead? What is believed now? What was believed, let us say, before the days of Hawking and those other quantum people? There is one definite statement about the universe at its very beginning, but it is a religious one."

"Albert," said Essie warningly.

He grinned weakly. "I was only going to quote St. Augustine of Hippo," he said. "When he was asked what God was doing before He created the universe, he replied that he was creating Hell for people who asked that question."

"Albert!"

"Oh, very well," he said irritably. "Yes. It is thought that prior to some very early time — no later than the fraction one over 10^{43} of a second before it — relativity can no longer account for the physics of the universe and some sort of 'quantum correction' must be made. I am getting quite tired of this schoolboy quiz, Mrs. Broadhead."

I have not often seen Essie shocked. "Albert!" she cried again, in a quite different tone. Not warning. Astonished, and disconcerted.

"Yes, Albert," he said savagely, "that is who you created and who I am. Let us stop this, please. Have the goodness to listen. I do not know what happens before the Big Bang! I only know that there is someone somewhere who thinks he does know, and can control it. This frightens me very much, Mrs. Broadhead."

"'Frightens?'" gasped Essie. "Who has programmed to be 'frightened' in you, Albert?"

"You have, Mrs. Broadhead. I can't live with that. And I do not wish to discuss it further."

And he winked out.

He didn't have to do that. He could have spared our feelings. He could

have pretended to exit through a door, or disappeared when we were looking the other way. He didn't do either of those things. He just vanished. It was just as though he were a truly real human being in just such a spat, finishing it off by flouncing out and slamming the door in anger. He was too angry to be careful of appearances.

"Is not supposed to lose temper," said Essie dismally.

But he had; and the shock of that was not nearly as great as the shock that came when we discovered that the viewscreen still would not respond to its controls, and neither would the piloting board.

Albert had locked them both. We were heading at a steady acceleration toward we did not know what.

The
phone
was
ringing



in Wan's ship. Well, it was not really a phone, and it certainly wasn't ringing; but there was the signal to show that someone was directing a message to the ship on the FTL radio. "Off!" shouted Wan, waking up indignantly from his sleep. "I will speak to no one!" And then, somewhat more awake, he looked not only angry but puzzled. "It has been turned off," he said, staring at the FTL radio, and the look on his face went the rest of the way across the spectrum to fear.

What makes Wan less than loathsome to me, I think, is that ulcer of fear that ate away at him always. Heaven knows he was a brute. He was surly; he was a thief; he cared for nothing but himself. But that only means that he was what we all once were, but are socialized out of it by parents and playmates and school and police. No one had ever socialized Wan, and so he was still a child. "I will speak to no one!" he shouted, and woke Klara.

I can see Klara as she was then, since now I can see so much that was hidden. She was tired, she was irritable, she had had all of Wan any person could be expected to stand. "You might as well answer it," she said, and Wan glared at her as though she were insane.

"Answer? Of course I shall not answer! It is only at most some interfering bureaucrat to complain that I have not followed the exact

proper procedures —”

“To complain that you stole the ship,” she corrected mildly, and crossed to the FTL radio. “How do you answer it?” she asked.

“Do not be foolish!” he howled. “Wait! Stop! What are you doing?”

“Is it this lever?” she asked, and his yell was answer enough. He leaped across the tiny cabin, but she was larger than he and stronger. She fended him off. The signal chirp stopped; the golden light went off; and Wan, suddenly relaxing, laughed out loud.

“Ho, what a fool you are! There is no one there,” he cried.

But he was wrong. There was a hissing sound for a moment, then recognizable words — almost recognizable, at least. A shrill and queerly stressed voice said:

“I fill too you no harrum.”

For Klara to understand what had been said took considerable thought, and then when she had understood it, it did not achieve its desired effect. Was it what it sounded like? Some stranger, with a terrible hissing speech impediment, trying to say, “I will do you no harm”? And why would he say that? To be reassured that you are not in danger, at a time when you had no reason to think you were, is not reassuring.

Wan was scowling. “What is it?” he cried sharply, beginning to sweat. “Who is there? What do you want?”

There was no answer. The reason there was no answer was that Captain had used up his entire vocabulary and was busy rehearsing his next speech; to Wan and Klara, however, the silence had more meaning than the words. “The screen!” Wan cried. “Foolish woman, use the screen, find out what this is!”

It took time for Klara to work the controls; the use of the Heechee vision screen was a skill she had only begun to acquire on this voyage, since no one in her time had known how to operate it. It clarified to display a ship, a big one. The biggest Klara had ever seen, far larger than any of the Fives that had operated out of Gateway in her time. “What — What — What —” whimpered Wan, and only on the fourth try managed to complete it: “What is it?”

Klara didn’t try to answer. She didn’t know. She feared, though. She feared that it was the sight every Gateway prospector had both longed for and dreaded, and when the Captain finished rehearsing and delivered his next speech she was sure:

“I . . . cummin . . . a-bore-ud . . . tchew.”

Coming aboard! For one ship to dock with another in full drive was not impossible, Klara knew; it had been done. But no earthly pilot had had much practice in doing it.

“Don’t let him in!” shrieked Wan. “Run away! Hide! Do something!” He glared at Klara in terror, then made a lunge for the controls.

“Don’t be a fool!” she yelled, springing to intercept him. Klara was a

strong woman, perhaps stronger than Wan, but he was all she could handle just then. Mad fear made him strong. He flailed out at her and sent her reeling, and, weeping with fear, leaped at the controls.

In the terror of this unexpected contact, Klara nevertheless had room for another stabbing fear. Everything she had learned about Heechee ships had taught her that you never, *never* tried to change course once it was established. Newer skills had made it possible to do it, she knew; but she also knew that it was not to be done lightly, only after careful calculation and planning, and Wan was in no shape for either of those.

And even so — it made no difference. The great shark-shaped ship moved closer.

In spite of herself, Klara watched admiringly as the pilot of the other ship matched course change and velocity increment without difficulty. It was a technically fascinating process. Wan froze at the controls, watching it, mouth open, slobbering. Then, when the other ship loomed large and disappeared below the view of the scanners, and there was a grating sound from the lander hatch, he bellowed in fear and dove for the toilet. Klara was alone as she saw the lander hatch open and fall back; and so it was Gelle-Klara Moynlin who was the first human being to stand in the presence of a Heechee.

It rose from the hatch, stood erect and confronted her. Less tall than she. Reeking of something ammoniacal. Its eyes were round, because that is the best design for an organ which must rotate in any direction, but they were not human eyes. There was no concentric ring of pigment around a central pupil. There was no pupil, just a cross-shaped blotch of darkness in the middle of a pinkish marble that stared at her. Its pelvis was wide. Slung below the pelvis, between what would have been its thighs if its legs had been articulated in a human way, was a capsule of bright blue metal. As much as anything else, the Heechee looked like a diapered toddler with a load in its pants.

That thought penetrated through Klara's terror, and eased it — minutely — briefly — not enough. As the creature moved forward she leaped back.

As Klara moved, the Heechee moved too. It started as the hatch cover moved again and another one of them came through. From the tension and hesitancy of its movements it seemed to Klara that it was nearly as frightened as she, and so she said, not with the expectation of being understood but because it was impossible for her to say nothing:

"Hello, there."

The creature studied her. A forked tongue licked the shiny black wrinkles of its face. It made a strange, purring sound, as though it were thinking. Then, in something close to recognizable English, it said: "I em Heetsee. I fill too you no harrum."

He gazed with fascination and repugnance at Klara, then chittered

briskly to the other one, who began to search the vessel. They found Wan without trouble, and without trouble moved both Klara and Wan down through the hatch, through the connected landers, into the Heechee ship. Klara heard the hatches scrape closed, and then a moment later felt the lurch that meant that Wan's ship had been cast free.

She was a captive of the Heechee, in a Heechee ship.

They did not harm her. If they were intending to do it, at least they were in no hurry about it. There were four of them, and they were very busy.

What they were busy at Klara could not guess, and apparently the one with the limited English vocabulary was too busy at it to take time for the laborious task of explaining. What they really wanted from Klara at that moment was for her to stay out of the way. They had no trouble communicating that to her. They unceremoniously took her by the arm, with a leathery and painful grip, and shoved her where they wanted her.

Wan gave them no trouble at all. He lay huddled in a corner with his eyes tightly closed. When he discovered that Klara was nearby he peered at her with one eye, poked her in the spine to get her attention and whispered: "Did he really mean he wouldn't harm us, do you think?"

She shrugged. He whimpered almost inaudibly, then relapsed into his foetal crouch. She saw with disgust that a trickle of saliva was coming out of the side of his mouth. He was the next thing to catatonic.

If there was anyone to help her, that was not Wan. She would have to face the Heechee alone — whatever it might be that they intended.

But what was happening was fascinating. So much was new to Klara! She had spent the decades of rapid accretion of Heechee technology whirling at very nearly light speed around the core of the black hole. Her acquaintance with Heechee vessels was limited to the antiques she and I and the other prospectors had operated out of Gateway.

This was something else. It was a lot bigger than a Five. It far outshone even Wan's private yacht in its fittings. It didn't have one control panel, it had three — of course, Klara did not know that two of them were for other purposes than piloting the ship itself. Those two possessed instruments and operating readouts she had never seen before. Not only was it eight or ten times the cubic volume of a Five, but relatively less of the space was taken up with equipment. It was possible to move about it quite freely! It had the standard features — the worm-shaped thing that glowed during faster-than-light travel, the V-shaped seats and so on. But it also had blue-glowing boxes that whined and peeped and flickered with lights, and a different sort of worm-shaped crystal which Wan told her, terrified, was for digging into black holes.

Above all, it had Heechee.

Heechee! The semi-mythical, perplexing, nearly divine Heechee! No

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human being had ever seen one, or even a picture. And here was Gelle-Klara Moynlin, with no less than five of them all about her — growling and hissing and tweeting, and smelling quite strange.

They looked strange, too. They were smaller than human beings, and their very wide pelvises gave them a gait like a walking skeleton. Their skin was plastic-smooth and mostly dark, though there were patches and curlicues of bright gold and scarlet that looked like Indian war paint. Their physiology was not merely lean. It was gaunt. There was not much flesh on those quick, strong limbs and fingers. Although their faces seemed as though carved out of shiny plastic, it was at least resilient enough to allow for facial expression . . . though Klara could not be sure what the expressions represented.

And swinging below the crotches of every one of them, male and female alike, was a great cone-shaped thing.

For decades the Heechee "prayer fans" were a mystery. We did not know that they were actually their equivalent of books and datastores because the greatest minds of the time (my own included) could not find a way to read them, or even to find indications that they contained anything to be read. The reason was that, although scansion was simple enough, it could only take place in the presence of a background microwave radiation. The Heechee themselves had no problem with that, because their cones produced the proper radiation all the time, since they were always in some sort of contact with the datafans that contained the stored memories of their ancestors — held in their cones. Human beings could be excused for not guessing that the Heechee carried data between their legs, for human anatomy would not allow such a thing. (My own excuse is less evident.)

At first Klara thought it was part of their bodies, but when one of them disappeared into what she assumed was some sort of toilet it fussed for a moment and removed the cone. Was it something like a knapsack? A pocketbook? An attaché case, to carry papers, pencils and a brown-bag lunch? Whatever it was, it came off when they wanted it off. And when it was on it explained one of the great puzzles of Heechee anatomy, namely how they managed to sit down on those incredibly painful V-shaped seats. It was their dependent cones that filled the V-shaped gap. The Heechee themselves perched comfortably on the top of the cones. Klara shook her head, wondering — all the idle guesses and jokes on the subject in Gateway, why had no one ever thought of that?

She felt Wan's hot breath on the back of her neck. "What are they

doing?" he demanded.

She had almost forgotten he was there. She had almost forgotten even to be afraid, so fascinated was she by what she saw. That was not prudent. Who could tell what these monsters would do with their human captives?

For that matter, who could guess what they were doing now? They were all buzzing and chirping in an agitated way, the four larger ones clustered around the smaller fifth, the one with blue and yellow markings on its — no, definitely, on *her* — upper arms. All five of them were paying no attention to the humans just now. They were concentrated on one of the display panels, which was showing a star chart that Klara thought vaguely familiar. A group of stars, and around them a cluster of check marks — hadn't Wan displayed such a pattern on his own screen?

"I'm hungry," Wan growled sullenly in her ear.

"Hungry!" Klara pulled sharply away from him, in astonishment as much as revulsion. Hungry! She was nearly sick to her stomach with fear and worry — and, she realized, a queer odor, half ammonia and half rotting stump, that seemed to come from the Heechee themselves. Besides, she had to go to the bathroom . . . and this other monster could think of nothing but that he was hungry! "Please shut up," she said over her shoulder, and touched off Wan's always available fury.

"What? Me shut up?" he demanded. "No, you shut up, foolish woman!" He almost stood up to tower over her, but got no farther than a crouch, quickly groveling back to the floor, for one of the Heechee looked up and came toward them.

It stood over them for a moment, its wide, narrow-lipped mouth working as it rehearsed what it was about to say.

"Be fair," it pronounced distinctly, and waved a skinny arm toward the viewscreen.

Klara swallowed laughter, nervously trying to bubble out of her throat. Be fair! To whom? For what?

"Be fair," it said again, "for dese are sass sass sins."

So there was Klara, my truest love that was. She had suffered in a matter of weeks the terror of the black hole, the shock of losing decades of the world's life, the misery of Wan, the intolerable trauma of being taken by the Heechee. And meanwhile —

And meanwhile I had problems of my own. I had not yet been vastened and did not know where she was; I did not hear the warning to beware of the Assassins; I didn't then know that the Assassins existed. I couldn't reach out to comfort her in her fear — not just because I didn't know; but because I was full of fears of my own. And the worst of them did not involve Klara or the Heechee, or even my aberrant program Albert Einstein; it was in my own belly.



Nothing
worked.

We tried everything. Essie pulled Albert's fan from its socket, but he had locked the controls so that even without him we could change nothing. Essie set up another piloting program and tried to insert it; it was locked out. We shouted his name and scolded and begged him to appear. He would not.

For days that seemed like weeks we kept going, guided by the non-existent hands of my non-functioning data-retrieval system, Albert Einstein. And meanwhile the nut-kid Wan and the dark lady of my dreams were in the spaceship of Captain's Heechee crew and behind us the worlds were stewing and grumbling toward a violence too large to be accommodated. They were not what occupied our minds. Our worries were closer to hand. Food, water, air. We'd stocked the *True Love* for long cruises, much longer than this.

But not for five people.

We weren't doing nothing. We were doing everything we could think to do. Walthers and Yee-xing tinkered together piloting programs of their own — tried them — could not override what Albert had done. Essie did more than any of us, for Albert was her creation and she would not, could not, admit herself beaten. Check and recheck; write test programs and watch them come up blank; she hardly slept. She copied Albert's entire program into a spare datafan and tried that — still hoping, you see, that the fault was mechanical somewhere. But if so it carried over into the new storage. Dolly Walthers uncomplainingly fed the rest of us, stayed out of our way when we thought we might be getting somewhere (though we never were) and let us talk ideas out when we were stumped (which was often). And I had the hardest job of all. Albert was my program, said Essie, and if he would reply to anyone he would reply to me. So I sat there and talked to him. Talked to the air, really, because I had no evidence at all that he was listening as I reasoned with him, chatted with him, called his name, yelled at him, begged him.

He did not answer, not even a flicker in the air.

When we took a break for food Essie came to stand behind me and rub my shoulders. It was my larynx that was wearing out, but I appreciated the thought. "At least," she said shakily, to the air more than to me,

"must know what he's doing, I think. Must realize supplies are limited. Must provide for return to civilization for us, because Albert could not deliberately let us die?" The words were a statement. The tone wasn't.

"I'm certain of it," I said, but did not turn around so that she could see my face.

"I too," she said in a dismal tone as I pushed away my plate; and Dolly, to change the subject, said in a motherly way:

"Don't you like my cooking?"

Essie's fingers stopped massaging my shoulders and dug in. "Robin! You don't eat!"

And they were all looking at me. It was actually funny. We were out in the middle of nowhere at all with no good way of getting home, and four people were staring at me because I didn't eat my dinner. It was Essie, of course, clucking over me in the early stages of the trip, before Albert went mute; they suddenly realized that I might not be well.

In point of fact I wasn't. I tired quickly. My arms felt tingly, as though they had gone to sleep. I had no appetite — had not eaten much for days, and had escaped notice only because usually we ate in quick gobbles when we found time. "It helps to stretch out the supplies," I smiled, but nobody smiled back.

"*Foolish Robin*," hissed Essie, and her fingers left my shoulders to test the temperature of my forehead. But that was not too bad, because I'd been gulping aspirin when no one was looking. I assumed an expression of patience.

"I'm fine, Essie," I said. It wasn't exactly a lie — a little wishful thinking, maybe, but I wasn't *sure* I was sick. "I guess I should have been checked over, but with Albert out of commission —"

"For this? Albert? Who needs?" I craned my neck, puzzled, to look at Essie. "For this need only subset medic program," she said firmly.

"Subset?"

She stamped her foot. "Medic program, legal program, secretarial program — all subsumed into Albert program, but can be accessed separately. You call medic program this instant!"

I gaped at her. For a moment I couldn't speak, while my mind raced. "Do as I say!" she shouted, and at last I found my voice.

"Not the medical program!" I cried. "There's something better than that!" And I turned around and bellowed to thin air:

"Sigfrid von Shrink! Help! I need you desperately!"

There was a time in the year of my psychoanalysis when I hung on hooks while I waited for Sigfrid to appear. Sometimes I had a real wait, for in those days Sigfrid was a patched-together program of Heechee circuits and human software, and none of the software was my wife Essie's. Essie was good at her trade. The milliseconds of response time

became nano-, pico-, femtoseconds, so that Albert could respond in real time as well as a human — well, Hell, no! Better than any human!

And so when Sigfrid did not at once appear it was the feeling you get when you turn a switch and the light doesn't go on because it's burned out. You don't waste your time flicking the switch back and forth. You know. "Don't waste time," said Essie over my shoulder. If a voice can be pale, hers was.

I turned and smiled shakily at her. "I guess things are worse than we thought," I said. Her face was pale, all right. I put my hand on hers. "Takes me right back," I said, making conversation so that we would not have to face just how much worse things were. "When I was in analysis with Sigfrid, waiting for him to show up was the worst part. I would always get uptight, and. . . ." Well, I was rambling. I might have gone on doing it forever if I hadn't seen in Essie's eyes that I didn't have to.

I turned around, and heard his voice at the same time: "I am sorry to hear that it was so difficult for you, Robin," said Sigfrid von Shrink.

Even for a holographic projection, Sigfrid looked rather poorly. He was there with his hands clasped on his lap, sitting uncomfortably on nothing at all. The program had not troubled to furnish him with chair or pad. Nothing. Just Sigfrid, looking, for one of the few times in my recollection of him, quite ill at ease. He gazed around the five of us, all staring at him, and sighed before returning to me. "Well, Robin," he said, "would you like to tell me what is bothering you?"

I could hear Audee Walthers take a breath to answer him, and Janie click her tongue to stop him because Essie was shaking her head. I didn't look at any of them. I said, "Sigfrid, old tin whiz, I have a problem that's right down your alley."

He looked at me under his brows. "Yes, Robin?"

"It's a case of fugue."

"Severe?"

"Incapacitating," I told him.

He nodded as though it were what he had been expecting. "I do prefer that you not use technical terms, Robin," he sighed, but his fingers were lacing and relacing themselves in his lap. "Tell me. Is it yourself you are asking me to help?"

"Not really, Sigfrid," I admitted. The whole ballgame could have blown up then. I think it almost did. He was silent for a moment, but not at all still, and there was a bluish sparkle around the outlines of his body when he moved. I said, "It's a friend of mine, Sigfrid, maybe the closest friend I have in the world; and he is in bad trouble."

"I see," he said, nodding as though he did — which I expect was true enough. "I suppose you know," he mentioned, "that your friend cannot be helped unless he is present."

"He's present, Sigfrid," I said softly.

"Yes," he said, "I rather thought he was." The fingers were still now, and he leaned back as though there were a chair for him to lean against. "Suppose you tell me about it . . . and" — with a smile, which was the most welcome thing I had ever seen in my life — "this time, Robin, you may use technical terms if you wish."

Behind me I heard Essie softly exhale, and realized both of us had been trying to hold our breaths. I reached back for her hand.

"Sigfrid," I said, beginning to hope, "as I understand it the term 'fugue' refers to a flight from reality. If a person finds himself in a double-bind situation — excuse me, I mean if he finds himself in a position when one very powerful drive is frustrated by another, so that he can't live with the conflict, he turns his back on it. He runs away. He pretends it doesn't exist. I know I'm mixing up several different schools of psychotherapy here, Sigfrid, but have I got the general idea right?"

"Close enough, Robin. At least I understand what you are saying."

"An example of that might be —" I hesitated — "perhaps someone very deeply in love with his wife, who finds out that she's been having an affair with his best friend." I felt Essie's fingers tighten on mine. I hadn't hurt her feelings; she was encouraging me.

"You confuse drives and emotions, Robin, but that doesn't matter. What are you leading up to?"

I didn't let him rush me. "Or another example," I said, "might be religious. Someone with a heartfelt faith, who discovers there is no God. Do you follow me, Sigfrid? It's been an article of faith with him, although he knows there are a lot of intelligent people who disagree — and then, little by little, he finds more and more support for their belief, and finally it's overwhelming. . . ."

He nodded politely, listening, but his fingers had begun to writhe again.

"So finally he has to accept quantum mechanics," I said.

And that was the second point at which it all could have gone right out the chute. I think it nearly did. The hologram flickered badly for a moment, and the expression on Sigfrid's face changed. I can't say what it changed to. It wasn't anything I recognized; it was as though it had blurred and softened.

But when he spoke up his voice was steady. "When you talk about drives and fugues, Robin," he said, "you are talking about human beings. Suppose the patient you are interested in isn't human." He hesitated, and then added, "Quite." I made an encouraging noise, because I really didn't know where to go from there. "That is to say, suppose he has these drives and emotions, ah, programmed into him, let us say, but only the way a human can be programmed to do something like speak a foreign language after he is fully grown. The knowledge is there, but it is

imperfectly assimilated. There is an accent." He paused. "We are not human," he said.

Essie's hand gripped mine tightly. A warning. "Albert is programmed with a human personality," I said.

"Yes. As far as possible. Very far," Sigfrid agreed, but his face was grave. "Albert is still not human, for no computer program is. I mention only that none of us can experience, for example, the TPT. When the human race is going mad with someone else's madness, we feel nothing."

The ground was very delicate now, thin ice crusted over a quagmire, and if I stepped too roughly what might we all fall into? Essie held my hand strongly; the others were hardly breathing. I said, "Sigfrid, human beings are all different, too. But you used to tell me that that didn't matter a great deal. You said the problems of the mind were in the mind, and the cure for the problems was in there too. All you did was help your patients bring them up to the surface, where they could deal with them, instead of keeping them buried, where they could cause obsessions and neuroses . . . and fugue."

"It is true that I said that, yes, Robin."

"You just kicked the old machine, Sigfrid, right? To jar it loose from where it was stuck?"

He grinned — a pale grin, but there. "That is close enough, I suppose."

"Right. So let me try a theory on you. Let me suggest that this friend of mine" — I didn't dare name him again just then — "this friend of mine has a conflict he can't handle. He is very intelligent and extremely well informed. He has access to the best and latest knowledge of science in particular — all kinds of science — physics and astrophysics and cosmology and everything else. Since quantum mechanics is at the base of it he accepts quantum mechanics as valid — he couldn't do the job he was programmed to do without it. That's basic to his — programming." I had almost said "personality."

The grin was more pain than amusement now, but he was still listening.

"And at the same time, Sigfrid, he has another layer of programming. He has been taught to think like and behave like — to *be*, as much as he can be — a very intelligent and wise person who has been dead for a Hell of a long time, who happened to believe very strongly that quantum mechanics was all wrong. I don't know if that would be enough of a conflict to damage a human being," I said, "but it might do a lot of harm to — well — a computer program."

There were actual beads of perspiration on Sigfrid's face now. He nodded silently, and I had a bright, painful flashback — the way Sigfrid looked to me now, was that how I had looked to Sigfrid in those long-ago days when he was shrinking me? "Is that possible?" I demanded.

"It is a severe dichotomy, yes," he whispered.

And there I bogged down.

The thin ice had broken. I was ankle-deep in the quagmire. I wasn't drowning yet, but I was stuck. I didn't know where to go next.

It broke my concentration. I looked around helplessly at Essie and the others, feeling very old and very tired — and a lot unwell, too. I had been so wrapped up in the technical problem of shrinking my shrink that I had forgotten the pain in my belly and the numbness in my arms; but they came back on me now. It wasn't working. I didn't know enough. I was absolutely certain that I had uncovered the basic problem that had caused Albert to fugue — and nothing had come of it!

I don't know how long I would have sat there like a fool if I hadn't got help. It came from two people at once. "Trigger," whispered Essie urgently in my ear, and at the same moment Janie Yee-xing stirred and said tentatively:

"There must have been a precipitating incident, isn't that right?"

Sigfrid's face became blank. A hit. A palpable hit.

"What was it, Sigfrid?" I asked. No response. "Come on, Sigfrid, old shrinking machine, spit it out. What was the thing that pushed Albert out the airlock?"

He looked me straight in the eye, and yet I couldn't read his expression because his face became fuzzy. It was almost as though it was a picture on the PV and something was breaking down in the circuits so the image was fading.

Fading? Or fuguing? "Sigfrid," I cried, "*please!* Tell us what scared Albert into running away! Or if you can't do that, just get him here so we can talk to him!"

More fuzz. I couldn't even tell if he was looking at me any more. "Tell me!" I commanded, and from that fuzzy holographic shadow came an answer:

"The kugelblitz."

"What? What's a kugelblitz?" I stared around in frustration. "Damn it, get him here so he can tell us for himself."

"Is here, Robin," whispered Essie in my ear.

And the image sharpened again, but it wasn't Sigfrid any more. The neat Freud face had softened and widened into the gentle, pouchy German band leader, and the white hair crowned the sad eyes of my best and closest friend.

"I am here, Robin," said Albert Einstein sorrowfully. "I thank you for your help. I don't know if you'll thank me, though."

Albert was right about that. I didn't thank him.

Albert was also wrong about that, or right for wrong reasons, because the reason I didn't thank him was not merely that what he said was so grisly unpleasant, so scary incomprehensible, but also that I was in no

position to when he had finished.

My position wasn't much better when he began, because the letdown when he came back let me down all the way. I was drained. Exhausted. It was perfectly expectable that I should be exhausted, I told myself, because God knows it had been about as stressful a strain as I had ever been through, but it felt worse than simple exhaustion. It felt terminal. It wasn't just my belly or my arms or my head; it was as though all the power were draining out of all my batteries at once, and it took all the concentration I could get together to pay attention to what he was saying.

"I was not precisely in fugue, as you call it," he said, turning the unlit pipe over in his fingers. He had not bothered to be comical. He was wearing sweatshirt and slacks, but his feet were in shoes and the shoelaces were tied. "It is true that the dichotomy existed, and that it rendered me vulnerable — you will understand, Mrs. Broadhead, a contradiction in my programming; I found myself looping. Since you made me homeostatic there was another imperative: to repair the malfunction."

Essie nodded regretfully. "Homeostasis, yes. But self-repair implies self-diagnosis. Should have consulted me for check!"

"I thought not, Mrs. Broadhead," he said. "With all respect, the difficulties were in areas in which I am better equipped to function than you."

"Cosmology, ha!"

I stirred myself to speak — it wasn't easy, because the lethargy was strong. "Would you mind, please, just saying what you did, Albert?"

He said slowly, "What I did is easy, Robin. I decided to try to resolve these conflicts. I know they seem more important to me than to you; you can be quite happy without settling cosmological questions, but I cannot. I devoted more and more of my capacity to study. As you may not know, I included a great many Heechee fans in the datastores for this ship, some of which had never been analyzed properly. It was a very difficult task, and at the same time I was making observations of my own. I made use of all the instrumentation available on the *True Love* except for the TPT, since that doesn't work for me."

"What you *did*, Albert!" I begged.

"But that is what I did. In the Heechee data stores I found many references to what we have called the 'missing mass.' You remember, Robin. That mass which the universe should have to account for its gravitational behavior, but which no astronomer has been able to find —"

"I remember!"

"Yes. Well, I may have found it." He sat brooding for a moment. "I'm afraid that this did not solve my problem, though. It made it worse. If you had not been able to reach me through your clever little trick of talking through my subset Sigfrid I might be looping yet —"

"Found *what*?" I cried. The flowing adrenalin almost, but not quite,

took my mind off the way my body was notifying me of its troubles.

He waved a hand at the viewscreen, and I saw there was something on it.

In that first quick glance, what I saw on the screen did not make sense. And when I did give it a second look, and a more careful one, what stopped me cold and staring was not what was important.

The screen showed mostly nothing at all. There was a corner of a whirlpool of light at one edge of it — a galaxy, of course; I thought it looked like M-31 in Andromeda as much as anything, but I am no expert in galaxies. Especially when I see them without any spattering of stars around them, and there was no such spattering here.

There was something like stars. Little points of light, here and there. But they weren't stars, because they were winking and flickering like Christmas-tree lights. Think of a couple dozen fireflies, on a cold night so they aren't flashing their little passionate pleas very often, quite far away so that they aren't easy to see. That was what they looked like. The most conspicuous object among them, still not very conspicuous, was something that looked a little like the non-rotating black hole I had once lost Klara in, but not as large and not as threatening. And all of this was queer, but it was not what shocked a gasp out of me. I heard noises from the others, too. "It's a ship!" Dolly whispered, shakily. And so it was.

Albert said so. He turned around gravely. "That is a ship, yes, Mrs. Walthers," he said. "It is, in fact, the Heechee ship we saw before, I am nearly certain. I have been wondering if I could establish communication with it."

"Communication! With the Heechee! Albert," I shouted, "I know you're crazy, but don't you realize how *dangerous* that is?"

"As to danger," he said somberly, "I am much more afraid of the kugelblitz."

I did tell Robin several times what a kugelblitz was — a black hole caused by the collapse of a large quantity of energy, rather than a large quantity of matter — but as nobody had even seen one he didn't really listen. I also told him about the general state of intergalactic space — very little free matter or energy, barring scanty photon flux from distant galaxies, and, of course, the universal 3.7K radiation — which is what made it such a good place to put a kugelblitz, when you didn't want anything else to fall into it.

"Kugelblitz?" I had lost my temper completely. "Albert, you horse's ass, I don't know what a kugelblitz is and I don't much care. What I care

about is that you've damn near killed us all, and —"

I stopped, because Essie's hand on my mouth stopped me. "Shut up, Robin!" she hissed. "You want drive him to fugue again? Now, Albert," she said, quite calmly, "yes, please tell us what is kugelblitz. That thing looks to me like black hole, actually."

He passed a hand over his forehead. "The central object, you mean. Yes, it is a kind of black hole. But there is not one black hole there, there are many. I have not been able to count how many, since they cannot be detected except when there is some infall of matter to produce radiation, and there is not much matter out here between galaxies —"

"Between *galaxies*?" cried Walthers, and then stopped with Essie's eyes on him.

"Yes, Albert, please go on," she encouraged.

"I do not know how many black holes are present. In excess of ten. Probably in excess of ten squared, all in all." He glanced at me beseechingly. "Robin, do you have any idea how strange that is? How can one account for this?"

"I not only can't account for it, I don't even know what a kugelblitz is."

"Oh, good Heavens, Robin," he said impatiently, "we have discussed this sort of thing before. A black hole results from the collapse of matter to an extraordinary density. John Wheeler was the first person to predict the existence of another form of black hole, containing not matter but energy — so much energy, so densely packed, that its own mass pulled space around it. That is called a 'kugelblitz'."

He sighed, then said, "I have two speculations. The first is that this entire construct is an artifact. The kugelblitz is surrounded by black holes; I think to attract any loose matter — of which there is not much here in the first place — to keep it from falling into the kugelblitz itself. The second speculation is that I think we may be looking at the missing mass."

I jumped up. "Albert," I cried, "do you know what you're saying? You mean somebody *made* that thing? You mean —" But I never did finish the sentence.

I did not finish the sentence because I couldn't. Part of the reason was that there were too many scary notions floating around in my head; for if someone had *made* the kugelblitz, and if the kugelblitz was part of this 'missing mass,' then the obvious conclusion was that somebody was tampering with the laws of the universe itself, trying to reverse the expansion, for reasons which I could not (then) guess.

The other reason was that I fell over.

I fell over, because for some reason my legs would not support me. There was a blinding pain in the side of my head, just about the ear. Everything went all gray and swimmy.

I heard Albert's voice cry out, "Oh, Robin! I haven't been paying attention to your physical state!"

"My what?" I asked. Or tried to ask. It didn't come out well. My lips did not seem to want to form the words properly, and I felt suddenly very sleepy. That first quick explosion of localized pain had come and gone, but there was a distant awareness of pain, oh, yes, *big* pain, not very far away and rapidly coming closer.

They say that there is a selective amnesia for pain. You don't remember that root-canal job except, almost fondly, as a humorously rotten experience; if it were not for this, they say, no woman would have more than one child. That is true for most of you, I suppose. I'm sure it was true for me for a good many years, but not now.

Now I remember very clearly indeed and, yes, it is with almost humorous affection. What had happened in my head had provided its own anesthesia, and what I experienced was unclear. But I remember that unclearness with great clarity. I remember the panicky talk, and being hauled to a couch; I remember long dialogues and the tiny bite of needles as Albert fed me medication and took samples of me. And I remember Essie sobbing.

She was cradling my head in her lap. Though she was talking past me to Albert, and mostly in Russian, I heard my name often enough to know she was talking about me. I tried to reach up to pat her cheek. "I'm dying," I said — or tried to say.

She understood me. She leaned over me, her long hair drifting across my face. "Very dear Robin," she crooned, "is true, yes, you are dying. Or your body is. But that does not mean an end to you."

Now, we had discussed religion from time to time over the decades we'd been together. I knew her beliefs. I even knew my own. Essie, I wanted to say, you've never lied to me before, you don't have to do it now to try to ease dying for me. It's all right. But all that came out was something like:

"Does so!"

Tears dripped over my face as she rocked me, crooning, "No. Truly no, dearest Robin. Is a chance, a very good chance —"

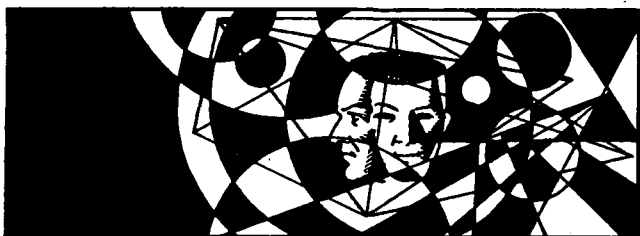
I made a tremendous effort. "There . . . is . . . no . . . hereafter," I said, strongly, spacing the words out with the best articulation I could manage. It may not have been clear, but she understood me. She bent and kissed my forehead. I felt her lips move against my skin as she whispered:

"Yes. Is a hereafter now."

Or maybe she said "a Here After."

* * *

And
the
stars
sailed
on.



They didn't care what was happening to one biped mammalian intelligent — well, semi-intelligent — living thing, simply because it happened to be me. I have always subscribed to the egocentric view of cosmology. I'm in the middle and everything ranges itself on one side of me or another: "normal" is what I am; "important" is what is near to me; "significant" is what I perceive as important. That was the view I subscribed to, but the universe didn't. It went right on as though I didn't matter at all.

The truth is that I didn't matter just then even to me, because I was out of it. A good many thousand light-years behind us on Earth, General Herzbergen was chasing another batch of terrorists who had hijacked a launch shuttle and the Commissaris had caught the man who had taken a shot at me; I didn't know and, if I had known, wouldn't have cared. A lot closer, but still as far from us as Antares is from Earth, Gelle-Klara Moynlin was trying to make sense of what the Heechee were telling her; I didn't know that either. Very close to hand indeed my wife, Essie, was trying to do something she had never done before, though she had invented the process, with the help of Albert, who had the entire process in his datastores but had no hands to do it with. About that I would have cared a great deal if I had known what they were doing.

But I couldn't know, of course, since I was dead.

I did not, however, stay that way.

When I was little my mother used to read me stories. There was one about a man whose senses were somehow scrambled after a brain operation. I don't remember who wrote it, Verne, Wells, one of those biggies from the Golden Age — somebody. What I remember is the punch line. The man comes out of the operation so that he sees sound, and hears touch, and the end of the story is him asking, "What smells purple?"

That was a story told me when I was little. Now I was big. It was not a story any more.

It was a nightmare.

Sensory impressions were battering at me. Colors, sounds, pressures, chills, pulls, twitches, itches, squirmings, burnings, yearnings — a billion quantum units of impression were assaulting naked, tender me. I didn't know what they meant. Or were. Or threatened. I don't know what to compare them to, even. Maybe being born is like that. I doubt it. I don't think any of us would survive it if it were.

But I survived.

I survived, because of only one reason. It was impossible for me not to. It's the oldest rule in the book: you can't knock up a pregnant woman, and you can't kill someone who is dead already. I "survived" because all that part of me that could be killed had been.

Do you have the picture?

Try to see it. Flayed. Assaulted. And most of all, aware I was *dead*.

Among the other stories my mother read me was Dante's *Inferno*, and what I sometimes wonder was whether Dante had some prevision of what it would be like for me. For if not, where did he get his description of Hell?

How long this lasted I did not know, but it seemed forever.

Then everything dwindled. The piercing lights moved farther away, and paler. The terrifying sounds were quieter; the itches and squeezes and turbulences diminished.

For a long time there was nothing at all, like Carlsbad Caverns in that scary moment when they turn off all the lights to teach you what *dark* is. There was no light. There was nothing but a distant confused mumbling that might have been the circulation of blood around the stirrups and anvils in my ears.

If I had had ears.

And then the mumbling began to hint of a voice, and words; and from a long way off, the voice of Albert Einstein:

"Robin?"

I tried to remember how to speak.

"Robin? Robin, my friend, do you hear me?"

"Yes," I shouted, and do not know how. "I'm here!" as though I knew where "here" was.

A long pause. Then Albert's voice again, still faint but sounding closer. "Robin," he said, each word spaced as though for a tiny child — "Robin. Listen. You are safe."

"Safe?"

"You are safe," he repeated. "I am blocking for you."

I did not answer. Had nothing to say.

"I will teach you now, Robin," he said, "a little at a time. Be patient, Robin. Soon you will be able to see and hear and understand."

Patient? I could be nothing but patient. I had no other options but to

patiently endure while he taught me. I trusted old Albert, even then. I accepted his word that he could teach the deaf to hear and the blind to see.

But was there any way to teach the dead to live?

I do not particularly want to relive that next little eternity. By Albert's time and the time of the cesium clocks that concerted the human parts of the Galaxy it took — he says — thirty-seven hours and a bit. By his time. Not by mine. By mine it was endless.

Although I remember very well, I remember some things only distantly. Not from incapacity. From desire, and also from the fact of velocity. Let me explain that. The quick exchange of bits and bytes within the core of a data store goes much faster than the organic life I had left behind. It blurs the past with layers of new data. And, you know, that's just as well, because the more remote that terrible transition is from my "now," the better I like it.

If I am unwilling to retrieve some of the early parts of those data, at least the first part that I am willing to look at is a big one. How big? *Big*.

Albert says I anthropomorphize. Probably I do. Where's the harm? I spent most of my life in the morph of an anthropos, after all, and old habits die hard. So when Albert had stabilized me and I was — I guess the only word is "vastened" — it was as a human anthropomorphic being that I visualized myself. Assuming, of course, that the human being was huger than galaxies, older than stars, and wise as all the billions of us have learned to be. I beheld the Local Group — our Galaxy and its next-door neighbors — as one little clot in a curdling sea of energy and mass. I could see all of it. But what I looked at was home, the mother Galaxy and M-31 beside it, with the Magellanic Clouds nestling nearby and all the other little clouds and globules and tufts and fluffs of streaky gas and starshine. And — the anthropomorphic part is — I reached out to touch them and cup them and run my fingers through them, as though I were God.

I was not really God, or even sufficiently godlike to be able really to touch any galaxies. I couldn't touch anything at all, not having anything to touch them with. It was all illusion and optics, like Albert lighting his pipe. There was nothing there. No Albert and no pipe.

And no me. Not really. I was not operatively godlike, because I did not have any tangible existence. I could not create the heavens and the earth, nor destroy them. I could not affect even the least part of them in any physical way at all.

But I could behold them most splendidly. From outside or in. I could stand at the center of my home system and see, peering past Masei 1 and 2, the millions and zillions of other groups and galaxies stretching out in speckled immensity to the optical ends of the universe, where fleeing star clusters run away faster than light can return to display them . . . and beyond that, too, though what I could "see" beyond the optical limit was

not really much different — and not really, Albert tells me, any more than a hypothesis in the Heechee memory stores I was tapping.

For, of-course, that's all it was. Old Robin hadn't suddenly swelled immense. It was just the paltry remains of Robinette Broadhead, who at that point was no more than a clutter of chained memory bits swimming around in the sea of datastores in the library of the *True Love*.

A voice broke into my immense and eternal reverie: Albert's voice. "Robin, are you all right?"

I did not want to lie to him. "No. Nowhere near all right."

"It will get better, Robin."

"I hope so," I said. "... Albert?"

"Yes?"

"I don't blame you for going crazy," I said, "if this is what you were going through."

Silence for a moment, then the ghost of a chuckle. "Robin," he said, "you haven't seen yet what drove me crazy."

I cannot say how long all of this took. I don't know that the concept of "time" meant anything, for at the electronic level, which is where I was dwelling, the time scale does not map well against anything "real." Much time is wasted. The stored electronic intelligence does not operate as efficiently as the machinery we are all born with; an algorithm is not a good substitute for a synapse. On the other hand, things move a lot faster down in sub-particle-land, where the femtosecond is a unit that can be felt. If you multiply the pluses and factor in the minuses, you'd have to say that I was living somewhere between ten and ten thousand times as fast as I was used to.

Of course, there are objective measures of real time — by which I mean *True Love* time. Essie marked the minutes very carefully. To prepare a corpse for the queasy semi-storage of her Here After chain took many hours. To prepare that particular stiff which happened to be me for the somewhat better storage she was able to arrange in the datafan, exactly like Albert's own datafan, took a great deal longer. When her part in it was done she sat and waited, with a drink in her hand that she didn't drink and attempts at conversation from Audee and Janie and Dolly that she didn't hear, although sometimes she answered something that they didn't hear either. It was not a jolly party on the *True Love* while they waited to see if anything at all remained to access of the late Robinette Broadhead, and it and it took all in all more than three days and a half.

For me, in that world of spin and charm and color and forbidden orbits where I was now transported to exist, it was — well, call it forever. It seemed that way.

"What you must do," Albert commanded, "is learn how to use your inputs and outputs."

"Oh, swell," I cried gratefully, "is that all? Gosh! Sounds like nothing at all!"

Sigh. "I am glad you retain your sense of humor," he said, and what I heard was, *because you'll damn well need it*. "You've got to work now, I'm afraid. It is not easy for me to go on encapsulating you this way —"

"Enwhat?"

"Protecting you, Robin," he said impatiently. "Limiting your access so that you won't suffer from too much confusion and disorientation."

"Albert," I said, "are you out of your *mind*? I've seen the whole *universe*!"

"You've only seen what I was accessing myself, Robin. That's not good enough. I can't control access for you forever; you have to learn to do it for yourself. So I'm going to lower my guard a little for you, when you're ready."

I braced myself. "I'm ready."

But I hadn't braced myself enough.

You would not believe how much it hurt. The chirping, chittering, bitching, demanding voices of all the inputs assaulted my — well, assaulted those loci in a non-spatial geometry that I still persisted in thinking of as my ears. It was torture. Was it as bad as that first naked exposure to everything at once? No. It was worse. In that terrible first blast of sensation I had had one thing going for me. I had not then learned to identify noise as sound, or pain as pain. Now I knew. I knew pain when I felt it. "Please, Albert," I screamed. "What is it?"

"These are only the datastores accessible to you, Robin," he said soothingly. "Only the fans on board the *True Love*, plus telemetry, plus some inputs from the sensors to the ship and crew itself."

"Make them stop."

"I can't." There was real compassion in his voice, though really no voice existed. "You have to do it, Robin. You have to select what stores you wish to access. Pick out just one of them and block out the others."

"Do what?" I begged, more confused than ever.

"Select just one, Robin," he said patiently. "Some are our own datastores, some are Heechee fans, some are other things. You have to learn how to interface with them."

"Interface?"

"To consult them, Robin. As though they were reference volumes in a library. As though they were books on shelves."

"Books don't yell at you! And these are all yelling!"

"Surely. It is how they make themselves evident — just as books on shelves are evident to your eyes. But you need only to look at the one you want. There is one in particular that, I think, will ease this for you. See if you can find that one."

"Find it? How do I *look* for it?"

There was a sound like a sigh. "Well," he said, "there's a stratagem that might be tried, Robin. I can't tell you up, down or sideways, because I don't suppose there's any frame of reference for you yet —"

"Damn right!"

"No. But there's an old animal trainer's trick, used to cause animals to perform complicated maneuvers they do not understand. There was a stage magician who used it to get a dog to go into an audience, select a particular person, take from it a particular object —"

"Albert," I begged, "this is not the time for you to tell me those long, rambling anecdotes!"

"No, this is not an anecdote. It's a psychological experiment. It works well on dogs — I do not know that it has ever been tried on an adult human, but let's see. This is what you do. Begin to move in any direction. If it is a good direction I will tell you to go on. When I stop telling you that, you stop doing that particular thing. Cast about. Try different things. When the new thing you do, or the new direction, is a useful one I will tell you to keep going. Can you do that?"

I said, "Will you give me a piece of bread when it's over, Albert?"

Faint chuckle. "At least the electronic analogue of one, Robin. Now, start casting about."

Start casting about! *How?* But there was no use asking that question, because if Albert had been able to give me a "how" in words we wouldn't have had to try a dog-handler's trick. So I began — doing things.

I can't tell you what things I was doing, exactly. I can give you an analogy, maybe. When I was in school in science class they showed us an electroencephalogram scanner, and showed how all our brains generated alpha waves. It was possible, they said, to make the waves go faster or get larger — to increase the frequency or the amplitude — but there was no way to tell us how to do it. We all took turns, all of us kids, and every one of us did in fact manage to speed up the sine trace on the screen, and no two of us described what we did in the same way. One said he held his breath, another that he sort of tensed his muscles; one thought of eating and another sort of tried to yawn without opening his mouth. None of them were real. All of them worked; and what I did now was not real either, because I had nothing real to do it with.

But I moved. Somehow, I moved. And all the time Albert's voice was saying, "No. No. No. No, that's not it. No. No —"

And then: "Yes! Yes, Robin, keep on doing that!"

"I am keeping on!"

"Don't talk, Robin. Just keep going. Keep going. Keepgoingkeepgoingkeepgoingkeep — no. Stop.

"No.

"No.

"No.

"No — yes! Keepgoingkeepgoingkeepgoingkeepgoing — no — yes! Keep going — stop! There it is, Robin. The volume you must open."

"Here? This thing here? This voice that sounds like —"

I stopped. I couldn't go on. See, I had accepted the fact that I was dead, nothing but stored electrons in a datafan, able to talk just then only to mechanical storage or other non-alive persons like Albert.

"Open the volume!" he commanded. "Let her speak to you!"

She did not need permission. "Hello, Robin love," said the non-living voice of my dear wife Essie — strange, strained, but no doubt at all who it was — "Is a fine place are in now, is it not?"

I do not think that anything, not even the recognition of my own death, was as terrific a shock as finding Essie among the dead ones. "Essie," I screamed, "what happened to you?"

And at once Albert was there, solicitous, quick: "She's all right, Robin. She's not dead."

"But she must be! She's here!"

"No, my dear boy, not really here," said Albert. "Her book is there because she partially stored herself, as part of the experiments for the Here After project. And also as part of the experiments that led to me, as I am at present constituted."

"You bastard, you let me think she was dead!"

He said gently, "Robin, you must get over this flesh-and-blood obsession with biology. Does it really matter if her metabolism still operates on the organic level, in addition to the version of her which is stored here?" And that strange Essie-voice chimed in:

"Be patient, dear Robin. Be calm. Is going to be all right."

"I doubt that very much," I said bitterly.

"Trust me, Robin," she whispered. "Listen to Albert. He will tell you what to do."

"The hardest part is over," Albert reassured me. "I apologize for the traumas you have suffered, but they were necessary — I think."

"You *think*."

"Yes, only think, Robin, for this has never been done before and we are operating largely in the dark. I know it has been a shock to you to meet the stored analogue of Mrs. Broadhead in this way, but it will help to prepare you to meet her in the flesh."

If I had had a body to do it with, I would have been tempted to punch him — if Albert had had anything to punch. "You're crazier than I am," I cried.

Ghost of a chuckle. "Not crazier, Robin. Only as crazy. You will be able to speak to her and see her, just as I did with you while you were still — alive. I promise this, Robin. It will succeed — I think."

"I can't!"

Pause. "It is not easy," he conceded. "But consider this. I can do it. So do you not think you can do as well as a mere computer program like myself?"

"Don't taunt me, Albert! I understand what you're saying. You think I can display myself as a hologram and communicate in real time with living persons; but I don't know how!"

"No, not yet, Robin, for those subroutines do not yet exist in your program. But I can teach you. You will be displayed. Perhaps not with all the natural grace and agility of my own displays," he boasted, "but at least you will be recognizable. Are you prepared to begin to learn?"

And Essie's voice, or that voice which was a degraded copy of Essie's, whispered, "Please do, dear Robin, for am waiting for you without patience."

How tiresome it is to be born! Tiresome for the neonate, and more tiresome still for the auditor who is not experiencing it but only listening to interminable woes.

Interminable they were, and spurred by constant nagging from my midwives. "You can do it," promised the copy of Essie from one side of me (pretending for the moment that I had a "side") and, "It is easier than it seems," confirmed the voice of Albert from the other. There were no two persons in the universe whose word I would take more readily than either of them. But I had used up all my trust; there was none left, and I was scared. Easy? It was *preposterous*.

For I was seeing the cabin as Albert had always seen it. I didn't have the perspective of two focusing eyes and a pair of ears located at particular points in space. I was seeing and hearing all of it at once. Long ago that old painter, Picasso, painted pictures like that, with the parts spread out in random order. They were all there, but so exploded and randomized that there was no overriding form to recognize but only a helter-skelter mosaic of bits. I had wandered the Tate and the Met with Essie to look at such paintings, and even found some pleasure in them. They were even amusing. But to see the real world spread out that way, like parts on an assembly bench — that was not amusing at all.

"Let me help you," whispered the analogue of Essie. "Do you see me there, Robin? Asleep in the big bed? Have been up for many days, Robin, pouring old organic you into fine new fan bottle and am now worn out; but, see, I have just moved hand to scratch my nose. Do you see hand? Do you see nose? Do you recognize?" Then the ghost of a chuckle. "Of course you do, Robin, for that is me all over."

* * *

There
still
was
Klara



to be thought about, if I had known enough just then to think about her — not just Klara but Wan (hardly worth a thought, really) and also Captain and his Heechee, who were worth all the thoughts anyone could give them. But I did not then know that, either. I was vaster, all right, but not as yet very well informed.

The physical closeness of his two human captives was one of Captain's problems. In his bony nostrils they *stank*. They were physically repellent. Loose, bouncing, jiggling fat and sagging flesh marred the clean lines of their structures — the only Heechee ever that gross were the few dying of the worst degenerative disease they knew. Even then the stink was not as bad. The human breath was rancid with putrefying food. The human voices grated like buzz-saws. It made Captain's throat sore to try to frame the buzzy, grumbly syllables of their nasty little language.

In Captain's view, the captives were nasty all over, not least because they simply refused to understand most of what he said. When he tried to tell them how perilously they had endangered themselves — not to mention the Heechee in their hiding place — their first question was: "Are you Heechee?"

In all his troubles, Captain had room for irritation at that — the same irritation, though he didn't know it, that the native Americans felt when they discovered that Europeans had named them "Indians," or the Khoi-Sans when they were called "Bushmen" and "Hottentots." What the Heechee in fact called themselves was "the intelligent ones."

It was of course the same irritation the sailship people experienced when they learned that the Heechee called *them* "slush-dwellers." That the Captain did know, but didn't think about. "Heechee!" he groaned, then gave his abdominal shrug. "Yes. It does not matter. Be still."

"Phew," muttered White Noise, referring to more than the physical stink. Captain glared and turned to his expediter.

"Have you disposed of their vessel?" he demanded.

"Of course," said Burst. "It is en route to a holding port, but what of

the kugelblitz?" (He did not of course use the word **kugelblitz**.)

Captain shrugged his belly morosely. He was tired. They were all tired. They had been operating at the extreme limits of their capability for days now, and they were showing the effects. Captain tried to put his thoughts in order. The sailship had been tucked out of sight. These errant human beings had been removed from the vicinity of that most terrible of dangers, the kugelblitz, and their ship, on automatic, was being hidden away. So far he had done, he knew, as much as could have been expected of him. It had not been without cost, he thought, sorrowing for Twice; it was hard to believe that in the normal course of events he would still be enjoying her once-a-year love.

But it was not enough.

It was entirely possible, Captain reflected, that by this point there was no longer such a thing as "enough"; it might well be too late for anything he, or the entire Heechee race, could do. But he could not admit that. As long as there was a chance he had to act. "Display the charts from their ship," he ordered, and turned again to the rude, crude mounds of blubber he had captured. Speaking as simply as to a child he said: "Look at this chart."

It was one of the minor annoyances of Captain's situation that the leaner, and therefore less physically appalling, of his captives was also the nastier. "You be still," he ordered, pointing a lean fist at Wan; his ravings had been even more nearly sense-free than the female's. "You! Do you know what this is?"

At least the female had the sense to speak slowly. It took only a few repetitions before he understood Klara's answer: "It is the black hole we were going to visit."

Captain shuddered. "Yes," he said, trying to match the unfamiliar consonants. "Exactly." Burst was translating for the others, and he could see the tendons writhing on their limbs in shock. He chose his words carefully, pausing to check with the ancestral minds to make sure he had the right words:

"Listen carefully," he said. "This is very dangerous. Long, long ago we discovered that a race of Assassins had killed off every technologically advanced civilization in the universe — at least in our own Galaxy, and in some nearby ones. . . ."

Well, it did not go that swiftly. Captain had to repeat and repeat, a dozen times for a single word, sometimes, before the blubbery creatures could seem to grasp what he was saying. Long before he was finished his throat was raw, and the rest of his crew, though they knew as well as he what perils were involved, were frankly dozing. But he didn't stop. That chart on the screen, with its clustered energy-sinks and its quintuple warning legend, did not let him relax.

The Assassins had done their work of slaughter millennia before the Heechee appeared on the scene. At first the Heechee had thought they were simple monsters from the primeval past, no more to be feared in their time than the Heechee equivalent of a tyrannosaur.

Then they had discovered the kugelblitz.

Captain hesitated there, looking around at his crew. The next part was hard to say, for it led to an obvious conclusion. His tendons writhing, he plunged ahead:

"It was the Assassins," he said. "They have retreated into a black hole — but the particular kind of black hole that is composed of energy, not matter, for they themselves were not made of matter. They were pure energy. Inside their black hole they exist only as a sort of standing wave in an energy sea."

By the time he had repeated it several times, in several ways, he could see that questions were forming; but the logical deduction he feared wasn't among them. The question was from the female, and it was only:

"How can a being composed only of energy survive?"

That was easy enough to answer. The answer was, "I don't know." There were, Captain knew, theories — theories that said the Assassins had once been creatures of physical bodies but had somehow cast them off — but whether the theories had any relation to fact even the oldest of the massed minds could not say.

But it was the very difficulty of survival for beings of pure energy, Captain explained, that led to the last and worst thing about the Assassins. The universe was not hospitable to them. So they decided to change the universe. Did something to create a good deal of additional mass in the universe. Caused the expansion of the universe to reverse itself. Holed up in their kugelblitz . . . and waited.

"I have heard of this missing mass often," said the male captive eagerly. "The Dead Men when I was a child spoke of it — but they were crazy, you know."

The female stopped him. "Why?" she demanded. "Why would they do this?"

Captain paused, bone-tired from the ordeal of trying to communicate with these dangerous primitives. Again the best answer was, "I don't know," but there were speculations. "It is thought by the massed minds," he said slowly, "that the physical laws of the universe were determined by random fluctuations in the distribution of matter and energy at the first moment after the Big Bang. It is possible that the Assassins intend to interfere with that process. Once they have collapsed the universe and it rebounds, they may change those basic laws — the ratio of the masses of the electron and proton, the number which relates the gravitational force to the electromagnetic — all of them — and so bring about a universe in which they could live more comfortably . . . but

you and I could not.”

The male had been less and less able to contain himself. Now he burst out in squawking sounds, only gradually turning into intelligible words. “Ho-ho!” cried Wan, wiping away a tear, “what cowards you are! Afraid of some creatures that hide themselves in a black hole, to do something that won’t happen for billions of years! What does that matter to us?”

But the female had grasped Captain’s meaning. “Shut up, Wan,” she said, her facial muscles tightening in an almost Heechee expression. “What you’re saying is that these Assassins aren’t taking any chances. They came out once before to wipe out everybody who looked like he might be going to get civilized enough to interfere with their plan. They might do it again!”

“Exactly so!” cried Captain with pleasure. “You have said it precisely! And the danger is that you barbarians — you people,” he corrected himself, “are likely to bring them back. Using radio! Penetrating black holes! Flying all around the universe, even up to the kugelblitzes themselves! Surely they have left monitoring systems to warn them if new technological civilizations emerge — you must very soon alert them, if you haven’t already!”

And when the prisoners had finally understood — Wan whimpering in fear, Klara white-faced and shaken — when they had been given food packets and told to rest — when the crew clustered around Captain to know what made his jaw-tendons writhe like snakes, he could only say, “It is beyond belief.” To make the blubbery ones understand him had been difficult enough; for him to understand them, impossible. He said, “They say they cannot make all their fellows stop.”

“But they must,” cried White Noise, aghast. “They are intelligent, are they not?”

“They are intelligent,” agreed Captain, “for otherwise they would not use our ships so easily. But I think they are also mad. They have no rule of law.”

“They must have law,” said Burst, unbelieving. “No society can live without law!”

“Their law is compulsion,” said Captain gloomily. “If one of them is where the agencies of enforcement cannot touch him, he may do as he pleases.”

“Then let them enforce! Let them track down every ship and make it stop!”

“You foolish White Noise,” said Captain, shaking his head, “think about what you have said. Chase them down. Fight them. Battle them in space. Can you imagine any louder commotion than that — and can you imagine the Assassins will not hear?”

“Then what?” whispered Burst.

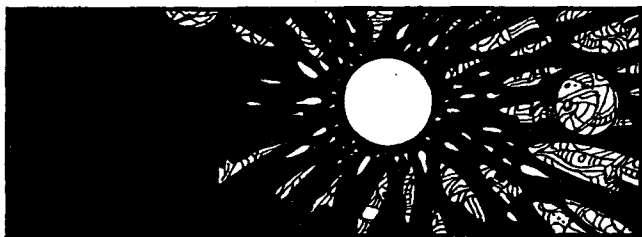
"Then," said Captain, "we must reveal ourselves." He raised his hand to still debate, and gave orders.

They were orders the crew had never thought they would hear, but they perceived the Captain was right. Messages flew. In a dozen places in the Galaxy, long-silent ships received their remote-controlled commands and came to life. A long dispatch was sent to the monitors near that central black hole where the Heechee lived; by now the first word of warning should have got through the Schwarzschild barrier and reinforcements should be coming out. It was a herculean task for the short-handed crew, and Twice's absence was regretted more sorely than ever. But at last it was done, and Captain's own ship turned on a new course for a rendezvous.

As he curled into a sleeping ball, Captain found himself smiling. It was not a joyous smile. It was the rictus of a paradox too wounding to respond to in any other way. He had feared, all through the talk with the captives, that they would come to an unwelcome conclusion: once they knew that the Assassins had hidden themselves inside a black hole, they might easily suspect the Heechee had done the same, and so the central secret of the Heechee race would be compromised.

Compromised! He had done much more than compromise it! All on his own authority, with no higher powers to approve or forbid, Captain had awakened the sleeping fleets and summoned reinforcements from inside the event horizon. The secret was no secret any more. After half a million years, the Heechee were coming out.

Where
was
I,
really?



It took me a long time to answer that question for myself, not least because my mentor, Albert, dismissed it as silly. "The question of 'where' is a foolish human preoccupation, Robin," he grumped. "Concentrate! Learn how to do and how to feel! Reserve the philosophy and the metaphysics for those long evenings of leisure with a pipe and a stein of good beer."

"Beer, Albert?"

He sighed. "The electronic analogue of beer," he said testily, "is quite 'real' enough for the electronic analogue of a person. Now pay attention, please, to the inputs I am now offering you, which are video scans of the interior of the control cabin of the *True Love*."

I did as he said, of course. I was at least as eager as Albert to complete my training course, so that I could go on to do — whatever it was possible for me to do in this new and scary state. But in my odd femtoseconds I could not help turning over that question in my mind; and I finally found an answer. Where was I, really?

I was in heaven.

Think about it. It meets most of the specifications, you know. My belly didn't hurt any more — I didn't have a belly. My enslavement to mortality was over, for if I had owed a death I had paid it, and was quit for the morrow. If it was not quite eternity that waited for me, it was something pretty close. Data storage in the Heechee fans we already knew was good for at least half a million years without significant degradation — because we had the original Heechee fans still working — and that's a lot of femtoseconds. No more earthly cares; no cares at all, except those I chose to take on for myself.

Yes. Heaven.

You probably don't believe that, because you won't accept that an existence as a disembodied clutter of databits in fan storage can have anything really "heavenly" about it. I know that, because I had trouble accepting it myself. Yet "reality" is — is "really" — a subjective matter. We flesh-and-blood creatures "really" perceived reality only at second or third hand, as an analogue painted by our sensory systems on the synapses of our brains. So Albert had always said. It was true — or almost true — no, it was *more* than true, in some ways, because we disembodied clutters have a wider choice of realities than you.

But if you still don't believe me I can't complain. However many times I told myself it was so, I didn't find it very heavenly either. It had never occurred to me before how terribly *inconvenient* it was — financially, legally, and in many otherlies, not least maritally — to be dead.

So, coming back to the question, where was I really? Why, really I was at home. As soon as I had — well — died, Albert in remorse had turned the ship around. It took quite a while to get there, but I wasn't doing anything special. Just learning how to pretend to be alive when in fact I wasn't. It took the whole flight back just to make a start on that, for it was a lot harder to be born into fan storage than into the world in the old biological way — I had to actively *do* it, you see. Everything about me was a great deal vaster. In one sense I was limited to a Heechee-model datafan with a cubic content of not much more than a thousand cc, and in that sense I was detached from my plug-in and carried through customs and

brought back to the old place on the Tappan Sea with no more trouble than you'd carry an extra pair of shoes. In another sense I was vaster than galaxies, for I had all the accumulated datafans in the world to play in. Faster than a silver bullet, quick as quicksilver, swift as the shining lightning — I could go anywhere that any of the stored Heechee and human datastores had ever gone, and that was everywhere I had ever heard of. I heard the eddas of the slush-dwellers from the sailship and hunted with the first exploring Heechee party that captured the australopithecines; I chatted with the Dead Men from Heechee Heaven (poor inarticulate wrecks, so badly stored in such haste by such inexperienced help, but still remembering what it was to be alive). Well. Never mind where all I went; you don't have time to hear. And that was all easy.

Human affairs were harder. . . .

By the time we were back on the Tappan Sea Essie had had a chance to rest up and I had had the time and practice to recognize what I saw, and both of us had got over some of the trauma of my death. I don't say we'd got over it all, but at least we could talk.

At first it was only talk, for I was shy of trying to display myself to my dear wife as a hologram. Then said Essie commandingly, "You, Robin! Is no longer tolerable, this talking to you on voice-only phone. Come where I can see!"

"Yes, do!" ordered the other Essie stored with me, and Albert chimed in:

"Simply relax and let it happen, Robin. The subroutines are well in place." In spite of them all, it took all my courage to show myself, and when I did my dear wife looked me up and down and said:

"Oh, Robin. How lousy you look!"

Now, that might sound less than loving, but I knew what Essie meant. She wasn't criticizing; she was sympathizing, and trying to keep from tears. "I'll do better later, darling," I said, wishing I could touch her.

"Indeed he will, Mrs. Broadhead," said Albert earnestly, which made me realize that he was sitting by my side. "At present I am helping him, and the attempt to project two images at once is difficult. I am afraid they are both degraded."

"Then you disappear!" she suggested, but he shook his head.

"There is also the need for Robin to practice — and, I think, you yourself may wish to make some programming amendments. For example, surround. I cannot give Robin a background unless I share it with him. Improvements are also needed in full animation, real-time reaction, consistency between frames —"

"Yes, yes," groaned Essie, and set about doing things in her workshop.

So did we all. There was much to do, especially for me.

I have worried about many things in my time, and almost always about the wrong ones. Worrying about dying hovered in the edges of my

concerns for most of my physical life — just as it does in yours. What I feared was extinction. I didn't get extinction. I got a whole new set of problems.

A dead man, you see, no longer has any rights. He can't own property. He can't dispose of property. He can't vote — not only can't he vote in an election to a government office, he cannot even vote the large majority of shares he owns in the hundred corporations he himself has set up. When he is only a minority interest — even a very powerful one, as I was in, for example, the transport system that sent new colonists to Peggys Planet — he won't even be heard. As you could say, he might as well be dead.

I was unwilling to be *that* dead.

It wasn't avarice. As a stored intelligence I had very few needs; there was no risk of my being turned off because I couldn't pay the utility bills. It was an urgency more pressing than that. The terrorists had not disappeared because the Pentagon captured their spaceship. Every day there were bombings and kidnappings and shootings. Two other launch loops were attacked and one of them damaged; a tanker of pesticide was deliberately scuttled off the coast of Queensland and so a hundred kilometers of the Great Barrier Reef was dying. There were actual battles being fought in Africa and Central America and the Near East; the lid was barely being kept on the pressure cooker. What we needed was a thousand more transports like the *S. Ya.*, and who was going to build them if I were silent?

So we lied.

The story went out that Robin Broadhead had suffered a cerebrovascular accident, all right, but the lie that was tacked on said I was showing steady improvement. Well, I was. Not in the exact sense implied, of course. But almost as soon as we were back home I was able to talk, voice-only, with General Herzbergen and some of the people in Rotterdam; in a week I was showing myself, from time to time — swathed in lap robes supplied courtesy of Albert's fertile imagination; after a month I allowed a PV crew to film me, tanned and fit, if thin, sailing our little catboat on the Sea. Of course, the PV crew was my very own and the clips that appeared on the newscasts were more art than reportage, but it was very good art. I could handle face-to-face confrontations. But I didn't need to.

So all in all, you see, I wasn't too badly off. I conducted my business. I planned, and carried out plans, to ease the ferment that fed the terrorists — not enough to cure the problem, but to sit on the lid for a while longer. I had time to listen to Albert's worries about the curious objects he called "kugelblitz," and if we didn't then know what they meant it was probably just as well. All I lacked was a body, and when I complained about that Essie said forcefully: "Dear God, Robin, is not end of world for you! How many others have had same problem!"

"To be reduced to a datastore? Not many, I should think."

"But same problem anyhow," she insisted. "Consider! Healthy young male goes ski-jumping, falls and cracks spine. Paraplegic, eh? No body that amounts to anything except liability, needs to be fed, needs to be diapered, needs to be bathed — you are spared that, Robin. But the important part of you, that is still here!"

"Sure," I said. I did not add, what Essie of all people did not need to have me add, that my own definition of "important" parts included some accessories to which I had always attached particular value. Even there there were pluses to set against the losses. If I no longer had, e.g., sexual organs, there was surely no further problem about my suddenly complicated sexual relationships.

None of that had to be said. What Essie said instead was: "Buck up, old Robin. Keep in mind you are so far only first approximation of final product."

"What does that mean?" I demanded.

"Were great problem, Robin! Here After storage was, I admit, quite imperfect. Learned much in development of new Albert for you. Had never before attempted complete storage of entire, and very valued, person unfortunately dead. The technical problems —"

"I understand there were technical problems," I interrupted; I didn't really want to hear, just yet, the details of the risky, untried, exquisitely complex job of pouring "me" out of the decaying bucket of my head into the waiting basin of a storage matrix.

"To be sure. Well. Now have more leisure. Now can make fine tuning. Trust me, old Robin, improvements can yet be made."

"In me?"

"In you, certainly! Also," she said, twinkling, "in very inadequate stored copy of self. Have good reason to believe same can be made much more interesting to you."

"Oh," I said. "Wow." And wished more than ever for at least the temporary loan of some parts of a body, for what I wanted more than anything else just then was to put my arms around my very dear wife.

And meanwhile and meanwhile the worlds went on. Even the very small worlds of my friend Audee Walthers and his own complicated loving.

When you look at them from inside, all worlds are the same size. Audee's didn't seem small to him. I took care of one of their problems very quickly; I gave each of them ten thousand shares of stock in the Peggys Planet ferry, the *S. Ya.* and its pendant enterprises. Janie Yee-xing didn't have to worry about being fired any more; she could rehire herself as a pilot if she chose, or ride the *S. Ya.* as passenger if she liked. So could Audee, or he could go back to Peggys and boss his former

bosses on the oilfield; or none of the above, but lounge around in luxury for all his life, and so could Dolly. And, of course, that didn't solve their problems at all. The three of them mooned around the guest suites for a while until finally Essie suggested we lend them the *True Love* for a cruise to nowhere until they got their heads straightened out, and we did.

None of them were foolish at all — like the rest of us, they acted that way now and then, maybe. They recognized a bribe when they saw one. They knew that what I really wanted was for them to keep their mouths shut about my present unpleasantly non-corporeal state. But they also knew what a friendly gift was, and there was that component in the stock transfer, too.

And what did they do, the three of them on the *True Love*?

I think I don't want to say. Most of it is no one's business but theirs. Consider. There are times in everyone's life — certainly including yours, most definitely including my own — when what you are doing and saying is not either important or pretty. You strain at a bowel movement, you have a fugitive and shocking thought, you break wind, you tell a lie. None of it matters very much, but you do not want advertised those parts of everyone's life in which he looks ludicrous or contemptible or mean. Usually they don't get advertised, because there is no one to see — but now that I am vastened there is always one to see, and that is me. Maybe not right away. But sooner or later, as everyone's memories are added to the database, there are no personal mysteries left at all.

I will say this much of Audee Walthers's private concerns: what motivated his actions and fueled his worries was that admirable and desirable thing, love. What frustrated his loving was also love. He loved his wife, Dolly, because he had schooled himself to love her all the while they were married — that was his view of how married people should be. On the other hand, Dolly had left him for another man (I use the term loosely in Wan's case), and Janie Yee-xing had turned up to console him. They were both very attractive persons. But there were too many of them. Audee was as monogamous as myself. If he thought to make up with Dolly, there was Janie in the way — she had been kind, he owed her some sort of consideration — call it love. But between him and Janie there was Dolly: they had planned a life together and he had had no intention ever of changing it, so you could call that love, too. Complicated by some feeling that he owed Dolly some kind of punishment for abandoning him, and Janie some sort of resentment for being in the way — remember, I told you there were contemptible and ludicrous parts. Complicated much more by the equally complex feelings of Dolly and Janie. . . .

It must almost have been a relief to them when — orbiting idly in a great cometary ellipse that was pushing them out toward the asteroids and at angle to the ecliptic — whatever discussion they were having at the

moment was interrupted by a gasp from Dolly and a stifled scream from Janie, and Audee Walthers turned to see on the screen a great cluster of vessels huger and more numerous and far, far bigger than any human being had seen in Earth's solar system before.

They were scared out of their minds, no doubt.

But no more than the rest of us. All over the Earth, and everywhere in space where there were human beings and communications facilities to carry the word, there was shock and terror. It was the worst nightmare of every human being for the past century or so.

The Heechee were coming back.

They didn't hide. They were there — and so many of them! Optical sensors in the orbital stations spotted more than fifty ships — and what ships! Twelve or fourteen as big as the *S. Ya*. Another dozen bigger still, great globular structures like the one that had swallowed the sailship. There were Threes and Fives and some intermediate ones that looked suspiciously like cruisers, and all of them coming straight down at us from the general direction of Vega. I could say Earth's defenses were caught unprepared, but that would be a flattering lie. The truth was that Earth had no defenses worth mentioning. There were scout ships and patrol ships, to be sure; but they had been built by Earthmen to fight other Earthmen. No one had dreamed of pitting them against the semi-mythical Heechee.

And then they spoke to us.

The message was in English, and it was short. It said: "The Heechee can't allow interstellar travel or communication any more except under certain conditions that they will decide and supervise. Everything else has to stop right away. They've come to stop it." That was all before the speaker, with a helpless shake of the head, faded away.

It sounded a lot like a declaration of war.

It was interpreted that way, too. In the High Pentagon, in the orbiting forts of other nations, in the councils of power all over the world there were abrupt meetings and conferences and planning sessions; ships were called in for rearming, others were redirected toward the Heechee fleet; the orbital weapons that had been quiet for decades were checked and aligned — useless as arbalests, they might be, but if they were all we had to fight with we would fight with them. The confusion and shock and reaction swept the world.

And there was nowhere that suffered more astonishment and bewilderment than the people who made up my own happy household; for the person who gave the Heechee ultimatum Albert had recognized at once, and Essie only a moment later, and I before I even saw her face. It was Gelle-Klara Moynlin.

* * *

Gelle-Klara
Moynlin,
my
love.



My lost love. There she was, staring at me out of the frame of the PV and looking no older than the last time I'd seen her, years and decades before — and looking no better, either, because both times she was about as badly shaken up as it was possible for a person to be. Not to mention beaten up, once by me.

But if she'd been through a lot and showed it, my Klara, she had plenty in reserve. She turned from the screen when she had delivered her message to the human race and nodded to Captain. "You zaid it?" he demanded anxiously. "You gave the mezzage prezisely as I inzdructed?"

"Precisely," said Klara, and added, "Your English is getting much better now. You could talk directly if you wanted to."

"Is too important to take chanzas," said Captain fretfully, and turned away. Half the tendons on his body were rippling and twitching now, and he was not alone. His loyal crew were as harried as himself, and in the communications screens that linked his ship to the others in the grand fleet he could see the faces of the other captains. It was a grand fleet, Captain reflected, studying the displays that showed them in proud array, but why was it *his* fleet? He didn't need to ask. He knew the answer. The reinforcements from inside the Core amounted to more than a hundred Heechee, and at least a dozen of them were entitled to call themselves senior to him if they chose. They could easily have asserted command of the fleet. They didn't. They let it be his fleet, because that made it also be his responsibility . . . and his own sweet essence that would go to join the massed minds if it went wrong. "How foolish they are," he muttered, and his communicator twitched agreement.

"I will instruct them to maintain better order," he said. "Is that what you mean?"

"Of course, Shoe," sighed the Captain, and watched gloomily as the communicator rattled instructions to the other captains and controllers. The shape of the armada reformed itself slowly, as the great cargo vessels, capable of biting a thousand-meter spherical chunk out of anything and

carrying it anywhere, dropped back behind the transports and the smaller ships. "Human woman Klara," he called. "Why do they not answer?"

She shrugged rebelliously. "They're probably talking it over," she said.

"Talking it over!"

"I've tried to tell you," she said resentfully. "There are a dozen different major powers that have to get together, not counting a hundred little countries."

"A hundred countries," Captain groaned, trying to imagine such a thing. He failed. . . .

He was gambling for the highest of stakes. He did not know what would happen next — expected anything — feared almost everything — could not be surprised, he thought, by whatever occurred . . . until something did occur, which surprised him very much.

"Captain!" cried Mongrel, the integrator. "There are other ships!"

And Captain brightened. "Ah!" he applauded, "at last they respond!" It was curious of the humans to do so physically rather than by means of radio, but then they were strange to begin with. "Are the ships speaking to us, Shoe?" he asked, and the communicator twitched his cheek muscles no. Captain sighed. "We must be patient, then," he said, studying the display. The human vessels were certainly not approaching in any sensible order. It seemed, in fact, as though they had been detached from whatever errands they were on and thrown in to meet the Heechee fleet hurriedly, carelessly — almost frantically. One was in easy range of ship communication; two others farther away, and one of those battling an existing velocity that went the wrong way.

Then Captain hissed in surprise. "Human female!" he commanded. "Come here and inzdruct them to be careful! Zee what is happening!" From the nearest ship a smaller object had separated, a primitive thing that was chemically propelled, much too tiny to contain even a single person. It was accelerating directly toward the heart of the Heechee fleet, and Captain nodded to White Noise, who instantly ordered a nudge into FTL velocity that removed the nearest cargo vessels from danger. "They must not be zo zipzhod!" he cried sternly. "A collision could occur!"

"Not by accident," said Klara grimly.

"What? I do not underzdand!"

"Those are missiles," she said, "and they've got nuclear warheads. That's your answer. They're not waiting for you to attack. They're shooting first!"

Do you have the picture now? Can you see Captain standing there with his tendons shocked still and his jaw dropping, staring at Klara? He chews at his tough, thin lower lip and glances at the screen. There's his fleet, the huge caravan of cargo transports resurrected from half a million years of hiding so that he can — with grave doubt; at great risk to himself

— offer the human race, a couple of million at a time, free transportation and safe refuge from the Assassins, in the Core where the Heechee themselves hid. “*Shooting?*” he repeated numbly. “*To hurt us? Pozzibly to kill?*”

“Exactly,” flared Klara. “What did you expect? If it’s war you want, you’ll get it!”

And Captain closed his eyes, hardly hearing the horrified hiss and buzz that went around his crew as White Noise translated. “War,” he muttered, unbelieving; and for the first time ever thought of joining the massed minds not with fear but almost with longing; however bad it might be, how could it be worse than this?

And meanwhile. . . .

Meanwhile it almost went too far — but, fortunately for everyone, not quite. The Brazilian scoutship’s missile was far too slow to catch the Heechee as they dodged. By the time they were in position to fire again — long before any other human ship could come close — Captain had managed to explain to Klara, and Klara was on the communication circuits again, and the word was out. Not an invasion fleet. Not even a commando raid. A rescue mission — and a warning of what made the Heechee run and hide, and was now for us to worry about.



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I can smile at those pitiful old fears and apprehensions. Not at the time, maybe. But now, ah, yes. The scales are all bigger, and a lot more exciting. There are ten thousand stored Heechee dead ones outside the Core alone, and I can read them all. Have read them, nearly all. Go on reading them as I choose, whenever there is something I want to study more closely. Books on a library shelf?

They are more than that. I don’t exactly “read” them, either. It is much more like remembering them. When I “open” one of them, I open it all the way; I read it from the inside out, as though it were part of me. It was not easy to do that, and for that matter hardly anything I have learned

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to do since I was vastened has come easily. But with Albert to help me and simple texts to practice on, I learned. The first datastores I accessed were only that — just data; no worse than consulting a table of logarithms. Then I had old Heechee-stored Dead Men and some of Essie's first cases for her Here After franchises, and they were really not very well done. I was never in doubt about which part of what I was thinking was me.

But after we had straightened out the misunderstanding with Captain and I got to consult their own records, then it got hairy. There was Captain's late love, the female Heechee named Twice. To "access" her was like waking up in the dark and putting on a whole suit of clothes that you couldn't see — and that didn't fit you anyway. It was not just that she was female, although that *was* an immense incongruity. It was not even that she was Heechee and I was human. It was what she knew, and always had known, that neither I nor any other human had guessed. Perhaps Albert had — perhaps that was what had driven him mad. But even Albert's conjectures had not shown him a race of starfaring Assassins who stored themselves in a kugelblitz to wait for the birth of a new — and for them better — universe.

But, once the shock was over, Twice became a friend. She's really a nice person, once you get past the weirdness, and we have a lot of interests in common. The Heechee library of stored intelligences is not merely Heechee, or even human. There are musty old querulous voices that once belonged to winged creatures from an Antares planet, and slugs from a globular cluster. And, of course, there are the slush-dwellers. Twice and I spent a lot of time studying them and their eddas. Time, you see, is what I have plenty of, with my femtosecond synapses.

I have enough time, almost, to want to visit the Core itself, and perhaps some day I will. Not for some long time, though. Meanwhile and meanwhile, Audee and Janie Yee-xing have gone there, helping to pilot a mission that will be there for six or seven months — or, as we measure time out here, a few centuries; by the time they come back Dolly's presence should no longer be a problem, while Dolly herself is happy enough with her PV career. And Essie has the grace not to be *too* happy, lacking the sweet physical presence of myself, but seems all the same to have made a good adjustment. What she likes best (next to me) is her work, and she's got plenty of it — improving the Here After; using the same processes that make CHON-food to make more important organic items . . . such as, she hopes before very long, spare parts for people who need them, so that nobody need ever steal another person's organs again. . . . And, when you come right down to it, most people are happy. Now that we've borrowed the Heechee fleet and can lift a million people a month with all their effects to any of fifty fine planets waiting to be used, it's the pioneers and the covered wagons all over again, and a bright career for anyone. . . .

Especially for me.

And then there was Klara.

We met at last, of course. I would have insisted, and anyway in the long run she couldn't have been kept away. Essie took a launch loop to meet her in orbit and escort her personally down to the Tappan Sea, because otherwise Klara would have been drowned in media people trying to find out just what it was like to be a "captive of the Heechee" or whatever other appellations they could make up. I guess they got along pretty well, actually. I knew she was coming. I practiced my best holographic smiles and designed my most homelike surroundings, and when she came in the door I could tell by the way she stopped, and gasped, and stood silent that she had expected me to look a lot more dead.

I smiled, and opened my mouth to greet her — and, would you believe it, in spite of all the speeches I'd rehearsed, the first words out of my mouth were:

"Klara, I've got to know! Have you been hating me all this time?"

It was the question, after all, that had been on my mind for thirty years.

Even at the time, that struck me as pretty incongruous. Now it strikes me as merely dumb. How it struck Klara I can't exactly say, but she stood there with her mouth open for a moment, and then she swallowed. And then she shook her head.

And then she began to laugh. She laughed loud and full-bodied, and when she had finished laughing she knuckled the corner of her eye, still chuckling as she said, "Thank God, Robin! At least *something* hasn't changed! You've got a mourning widow and a world on the brink of the biggest upset the human race has ever known, and some scary monsters that are out to screw up just everything, and . . . and . . . and you're *dead*. And what you're worried about is your own damn feelings of guilt!"

And I laughed, too.

For the first time in, my God, half my life, the last little vestige of guilt was gone. It was hard to identify what it felt like; it had been a long time since I'd known that liberation. I said, still laughing myself, "I know I sound stupid, Klara. But it's been a long time for me, and I knew you were out there in that black hole with time slowed down — and I didn't know what you were thinking. I thought maybe you were — I don't know — blaming me for deserting you —"

"But how could I, Robin? I didn't know what happened to you. Do you want to know what I was really feeling? I was feeling terrified and numb, because I knew you were gone, and I thought you were dead."

"And," I grinned, "you finally get back here and I am?" I could see that she was more sensitive about jokes in that area than I was. "It's all right," I said. "Really all right. I'm just fine, and so's the whole world!"

I really was. I wished I could touch her, of course, but that was beginning to seem part of a remote childhood past; what was present was that she was here, and safe, and the universe was open before us. And when I said so her jaw dropped again. "You're so damned optimistic!" she blazed.

"I was honestly surprised. "Why shouldn't I be?"

"The Assassins! They're going to come out some time, and what are we going to do? If they can scare the Heechee, they scare the *hell* out of me."

"Ah, Klara," I said, understanding at last. "I see what you mean. You mean it's like it used to be for us when we knew the Heechee had been somewhere and might come back, and knew they'd been able to do things we couldn't hope to do —"

"Exactly! We're no match for the Assassins!"

"No," I said, grinning, "we're not. And we weren't any match for the Heechee, either — then. But by the time they did come out — we were. With any luck at all we'll have time before we have to face the Assassins."

"So what? They'll still be an enemy!"

I shook my head. "Not an enemy, Klara," I said. "Just another resource."

(The complete novel, under the title Heechee Rendezvous, will be published in May 1984 by Del Rey Books.)

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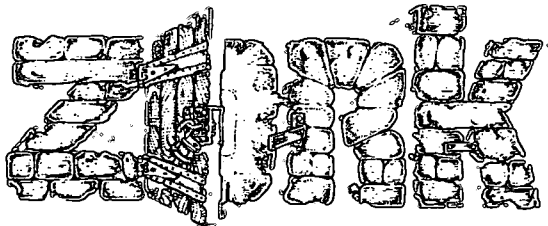


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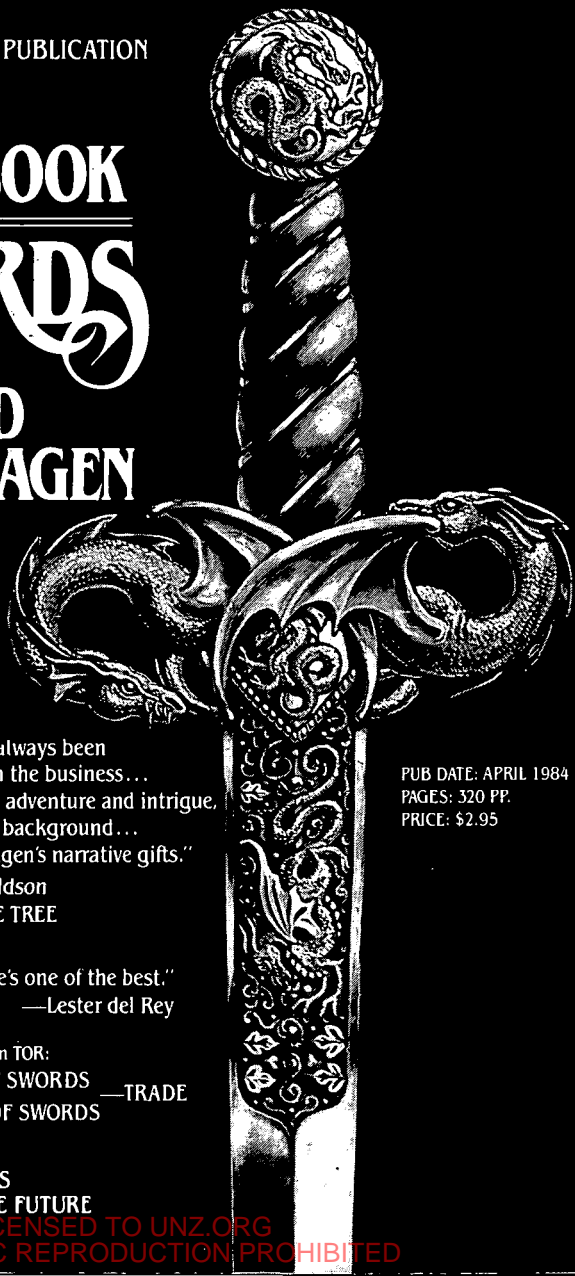
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